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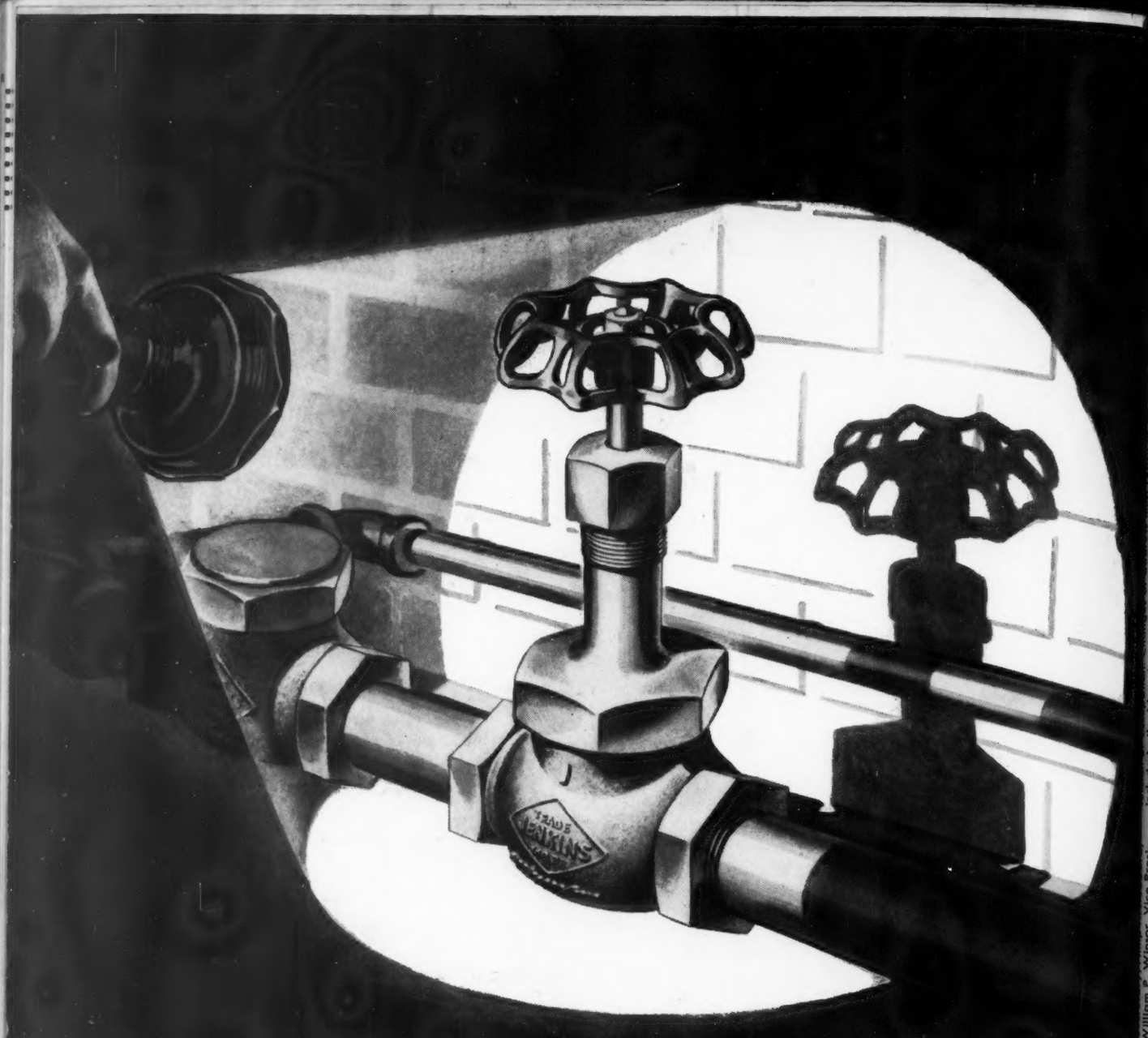
Pencil Points

THE MAGAZINE OF ARCHITECTURE

April, 1944



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Pencil Points

the magazine of architecture

April, 1944

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The Questions before

THE WAR—as we at General Electric very well know—is not over by a long sight.

But it's perfectly right and natural that the people concerned with postwar home building should already be starting to think about the houses of the future.

For before the house of the future is designed, built, and financed there'll be some questions to be answered and some problems to be solved.

Now, we're one of the interested parties, since we shall be making so much of the equipment that turns a house into a liveable home.

We don't mean just wiring, heating, and air-conditioning equipment, but also ranges, refrigerators, electric dishwashers, electric garbage disposal units, kitchen cabinets, water heaters, et cetera, et cetera.

Here's what we'd like to ask

Shouldn't this kind of equipment—some, or all of these appliances—be designed right into the house by architects . . . built right into the house by builders . . . financed with the house by mortgagees?

Shouldn't this be done, not just with the fancy $10,000-and-up jobs, but with homes that sell for as low as, say, $4000 or $5000?

We think this is a proposition worth some serious thought.

Of course, it's no brand-new idea. Up to Pearl Harbor, a substantial number of homes had been built and financed that way—with some or all of the major electrical appliances included.

FHA regulations permitted the inclusion of such items in mortgages in many cases and thereby helped establish the precedent for banks, mortgage companies, building and loan associations.

There was, definitely, the beginning of a trend.

Now the war comes in

War being what it is, the trend had no chance to develop further.

For the duration, Mr. & Mrs. John Q. Public can't buy a new home, can't let loose their natural urge to own the "latest thing."

This creates a great, pent-up buying impulse.

At the same time, there's being built up a great buying power. It's estimated by the U. S. Dept. of

In this music room Nairn Veltone Linoleum was used for floors, threads and risers; Nairn Plain Linoleum for feature strips and insets. Note how Nairn Linoleum meets the architect's need for a flexible material in modern circular design.

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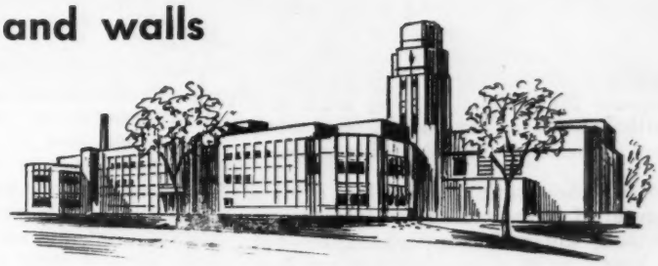
Kearny plant recently awarded renewal star for Army-Navy "E" for continued fine record in the production of war equipment. Dig deep . . . buy War Stamps and Bonds regularly.



Domestic Science room that used Nairn Veltone Linoleum on floor, borders and base, as well as on window ledges and work surfaces. The walls are Nairn Wall Linoleum.

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Views

Opinions from readers

Remarks from the editors

Data wanted

Changes of address

PRODUCERS' COUNCIL PLATFORM

The author of the following letter, commenting on editorial discussion in the January issue of PENCIL POINTS, *is now with the Facilities Bureau, War Production Board. He was for many years secretary of the Producers' Council.*

Dear Editor:

Your comment on the public housing plan of the Producers' Council Postwar platform is well put and most timely. I am glad someone other than government employees—who to the privately employed chap are always bureaucrats and politicians—can have the courage and perspective to take up the cudgel for public housing, when there is such a *determined* and well-organized campaign of misstatement and half truth trying to kill it.

Having been in public housing for the past 30 months—since July of 41—both with FPHA and WPB I may not be qualified to speak on it. But as one whose previous 30 years' experience has been in private housing I can hardly be called a bureaucrat. And it must be obvious to any one who will view the problem of adequate housing in its full aspects that public housing must and will continue to play an important—but not surpassing—part in the picture.

In all the utterances of the private housers I have yet to hear any offer to actually undertake slum clearance—but I hear lots of arguments against government in business.

Obviously the one indisputable proof of the need of subsidized housing is the inescapable fact that, except in a few remote instances, no private money has gone into slum clearance for low income people. Surely, if it were economically profitable (even 2½% or 3% return), private investors like insurance companies and larger estates would have tackled some of the jobs done during the last several years by local housing authorities under the National Housing Act.

There's no escaping the fact that slums can only be rebuilt by public funds. Private owners of slums find them too profitable to warrant improvement, preferring to exploit their tenants and let the community pay the cost of crime and disease and poverty.

Another thing: if the public housing boys had the money to organize and properly present their side (which, not having, puts them at a great disadvantage) they could put forward some refreshing cost data and some embarrassing tales of their efforts to interest private capital in doing the jobs they did.

So, again, congratulations on your stand. Let private builders have every bit of housing that can show an honest profit; there will still remain the blighted areas in most cities, where no private investor can build profitably. That will continue to be government's (Federal or State) job.

JOHN F. GOWEN
Arlington, Va.

The following letter is from the managing director of the Producers' Council:

Dear Ken:

Your extensive reference in the January issue to The Council's Platform for Postwar Construction is all to the good, as it focuses attention on important problems and encourages discussion. But your comments regarding the attitude of The Producers' Council toward the Federal government's participation in postwar construction came as a genuine surprise, since we can assure you that there is no jealous resentment of government on our part. Actually, our Platform calls for quite extensive participation and assistance on the part of the government, but perhaps we didn't properly emphasize some of our proposals.

It is true that The Council believes (1) that Federal ownership and control of housing should be discouraged, (2) that the responsibility for financing private residential construction should be relinquished by the Federal government when and if private enterprise is prepared to take over, and (3) that the Federal government should concern itself only with public works which are essential and serve a Federal purpose, leaving local public construction to local governments.

Those beliefs are in line with our conviction, widely shared in the construction industry, that government should assist and motivate private enterprise but not compete with it, and with our stand that unnecessary centralization of government in Washington is unwise.

So far as the motives of The Council are concerned, there is no semblance of jealousy involved. Nor is there any desire to prevent the Federal government from performing necessary and desirable functions which private enterprise cannot assume. We simply believe that private business can and will do its full share, that private initiative will do a better and more economical job than government could, and that the responsibility, therefore, should be placed where it belongs.

So much for what the Federal government *should not* do. In a recent appearance before the House Committee on Public Buildings and Grounds, our President, Douglas Whitlock, outlined what the Federal government *should* do to help secure a maximum volume of construction after the war. There were ten recommendations altogether, all taken from The Council's Postwar Platform, and they read as follows:

1. Revise the tax laws to permit deduction of funds spent for advance construction planning as current expense, to provide an incentive for immediate advance planning of all needed private construction, and to encourage community work pile plans.

2. Appropriate funds adequate for immediate planning of all essential Federal public works projects.

3. Confine Federal public works appropriations to essential projects which serve a Federal purpose, using less urgent projects to stabilize the construction industry and to replace nonproductive work-relief projects in times of depression, carrying out the policy declared by Congress in the Federal Employment Stabilization Act.

4. Return, by suitable declaration of policy, the responsibility for financing local public works to the levels of government which will own them, so that local officials will stop waiting for Federal assistance and proceed to plan needed local improvements in advance.

5. Help to provide adequate financing for private residential construction, through revamping of the National Housing Act and by continuing the Federal Housing Administration until adequate private mortgage insuring facilities are available.

6. Discontinue the use of Federal funds for the erection of new public housing, and rely for housing of needy families in existing structures through local welfare expenditures.

7. Provide for the disposal of government-owned surpluses of building products left over from the war program in an orderly way through established trade channels, and in a way to expedite needed civilian construction.

8. Appropriate sufficient funds to aid in the postwar training of returning servicemen and other construction workers.

9. Through a declaration of Congressional policy, encourage the removal of restrictions on civilian construction as fast as war requirements for critical materials and manpower merit.

10. Through a declaration of Congressional policy, encourage the resumption of farm construction at the earliest possible date.

Thus, you can rest assured that The Council agrees fully with your view that "it is reasonable to assume that the Federal government will still have to play a big part in the general scheme." All we ask is that the Federal government confine itself so far as possible to legitimate Federal functions,

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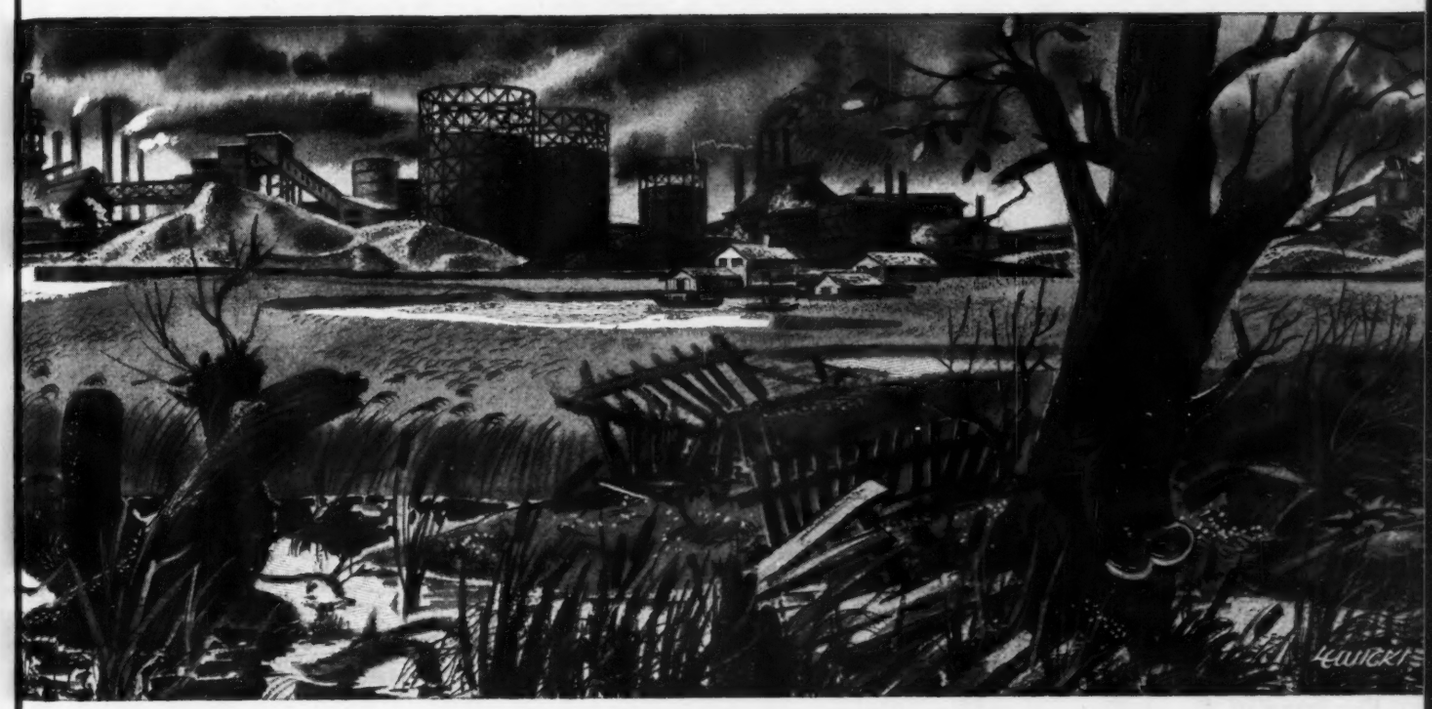
.... FOR THE LANDS TO BE RECLAIMED TOMORROW



New plants and new industries will play a vital part in the post-war development of American cities. Many urban communities which have utilized all the high ground where the soil is firm will extend industrial operations to low ground, swamp, and marsh lands.

In the past many low lands have been drained and filled to the desirable level—and large structures have been built on Raymond Concrete Piles. Other similar projects are now being planned for the future.

With 47 years of world-wide experience, the Raymond organization stands ready to help you with firm foundations for the reclaimed lands of tomorrow. Let's get our heads together now. It's the only way to have plenty of jobs ready for our boys when they come marching home.

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Views

(Continued from page 8)

which include the vital matter of establishing sound over-all policies for construction. When that is done, private enterprise and local governments, in our opinion, will do an amazingly good job of meeting the public's construction needs after the war.

If by any chance they fail to carry out these responsibilities, the Federal government will be right there, ready to take over, but there will be no need for that if Congress makes a determined effort to help private enterprise do the job.

I have sent you the complete statement filed by The Council with the Lanham Committee. If you have any questions concerning it, we will do our best to answer them.

J. W. FOLLIN, Managing Director,
Producers' Council, Inc.,
Washington 5, D. C.

To the preceding letter the Editor made reply as follows:

Dear Jim:

I have a great deal of admiration for the platform in general and recognized at once when I read it that the Committee did a serious and thoughtful job in which they weighed every word carefully. It would have been easy for me simply to print a summary without comment, but this thing is so much bigger than any of us can easily visualize that I felt a word of caution was warranted. I meet so many people these days who blithely insist that private business can handle the whole job of reconversion with an absolute minimum of Federal assistance that I can't help speaking out to tell them that I think they are kidding themselves. Mr. Moses joins me in this, as you may have noticed—also Mr. Kaiser. The job that has to be done is going to tax the resources of all *business and* all *branches of the government to the* utmost.

I yield to no one in my insistence that private business must continue to be the basis for our American economic and social system. I agree wholeheartedly with the principle that government should not engage in business competition. I believe, however, that in the field of public housing there is a substantial area in which it is not profitable for private enterprise to operate, and that in these areas some form of public housing represents the only way so far found to cope with the situation.

So far as the financing of private residential construction with Federally insured mortgages is concerned, there exists reasonable doubt that any sufficiently large aggregation of private capital would be willing to undertake to do the same job for the small percentage of profit that would be possible.

In the case of public works, I agree thoroughly that all the things undertaken should be soundly conceived and essential to the public welfare. I do think, however, that in the field of state and local public works it is still advisable to permit Federal loans or grants to supplement the local resources.

In regard to Doug Whitlock's ten points, my own position is as follows:

Points 1 and 2—Absolutely yes.

Point 3—I approve with the exception noted above; i.e., I believe it is still necessary for Federal money to be made available to states and localities.

Point 4—A clarification of Federal policy is perhaps needed here, but I would not be willing to concede that local officials do not already plan needed local improvements in advance or that they invariably wait for Federal assistance in doing so. I know of many cases where states and localities undertake these things as a matter of sound development. It seems to me that the curtailment of Federal funds for use in assisting state and local projects would act as a deterrent to such projects and would thus cut down their total volume taken over the country. To me it seems important for the postwar period that the volume should be kept up. I don't anticipate any danger that the total will become disproportionate, but I see

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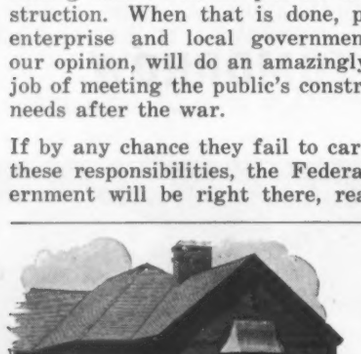

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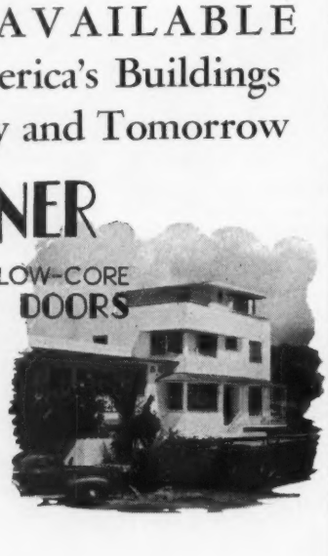

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We journeyed to Chicago to the Housing Conference during the week of March 6th and were agreeably surprised to find a larger number of architects than usually attend such meetings. These, together with the government housing people, planners, real estate men, bankers, builders, and representatives of manufacturers, made a total of more than six hundred registrants.

The first day's sessions aroused no particular controversy but constituted a warming-up period for the second day, when several differences of opinion came out into the open. Highlight of the second morning's session was the contrast provided by the bankers' point of view presented by Dr. Ernest M. Fisher as compared with the developer's point of view presented by Morris Macht of the Welsh Construction Company, Baltimore. Dr. Fisher questioned the advisability of encouraging prospective home owners to undertake long term commitments in order to finance their purchases, and demonstrated the risk surrounding such undertakings. Mr. Macht felt that the average man prefers to make monthly payments toward the ownership of a house rather than to pay the same amount for the acquisition of rent receipts, and that he is in debt anyhow for his shelter, whether it be to a landlord or to the mortgagee—so why should he worry too much about the risk?

After these talks Dr. B. J. Hovde, Administrator of the Housing Authority of the City of Pittsburgh, made what appeared to us an ironclad case in favor of Public Housing for "the lowest income groups." First insisting that the overwhelming part of the vast postwar national housing program must and can be done by private enterprise for private enterprise, he pointed out that Public Housing must be called upon to provide for "those families who cannot afford to pay enough rent to cause private enterprise in their localities to build an adequate supply of decent, safe, and sanitary dwellings for their use." Private enterprise has never profited in this economic area except through the continued operation of slums. Dr. Hovde suggested that private enterprise be turned loose, with the necessary legitimate assistance, to produce the largest possible number of the supposedly necessary 1½ million dwelling units per year, and that at the same time we arrange for a strictly limited number (perhaps from 300,000 to 500,000 units per year) to be provided by public enterprise through a period of five years, after which the further need should be reassessed. Quoting facts and figures, he defended the record of Public Housing on the basis of economy to the public treasury as compared with other methods that have been suggested for taking care of the need privately.

After a luncheon—at which John D. Blandford, Jr., N.H.A. Administrator, laid down a set of principles for the future of housing—a spirited afternoon session was held which took the form of a debate between Herbert U. Nelson of the National Association of Real Estate Boards and Hugh R. Pomeroy of the National Association of Housing Officials. Mr. Nelson smilingly put forward his suggested scheme whereby through "incentive taxation" private capital would be encouraged to go into the low-cost housing field. Mr. Pomeroy with equal affability demolished Mr. Nelson's plan which he analyzed to show that the loss to the public treasury in tax exemptions would greatly exceed the amount of public subsidy now granted to public low-cost housing projects. Mr. Nelson's plan would admittedly be highly attractive to the "twenty-cent dollars" of high-bracket income individuals, who could thereby secure a ten percent tax-exempt income from their investment, as well as hold onto the other eighty cents.

An overflow crowd attending the dinner meeting on Thursday evening heard Beardsley Ruml outline his proposed fiscal policy for the United States (previously published in *The New Republic*) and then were treated to an eulogy of American Motherhood and the Home, feelingly delivered into the microphone by the renowned Henry J. Kaiser. Friday's sessions dealt with new materials, techniques, and costs, and the discussions were led by an imposing array of manufacturers, developers, and research men.

The conference gave opportunity for all points of view to be presented. Few, if any, of those present were converted from their previously held views but all were agreed that housing of some sort is here to stay. The proceeding will no doubt be completely published by the National Committee on Housing, Inc.

Add forecasts (if you can take any more): Reports from many sections of the country indicate, says Producers' Council, that building materials for maintenance and replacement of essential farm structures must be provided in greater quantity in the immediate future for maximum production of food and other vital agricultural products needed in the war program. Construction of needed farm buildings has been held at a low level for 2 years as a result of federal non-military construction limitations. The Council has appointed a Farm Buildings Committee to formulate a program to meet current farm building needs and to help establish a sound postwar building program for American farmers. Their Market Analysis Committee has estimated that the volume of farm building maintenance and construction will be only about $350 million during 1944, barring a sudden end to the war, while an average of $1,365 million is forecast for the 5-year period starting 12 months after the war's end. (The December 1942 issue of PENCIL POINTS was devoted to the same problem.)

The Producers' Council forecasts a $26 billion program of public works and other public construction for the 5-year period starting 12 months after the war's end. The volume of new public construction would be less than half of the estimated amount of private building, but the expenditures for needed projects to be financed by federal, state, and local governments would provide employment for more than 2 million on-site and off-site workers and should remove all need to resort to work relief plans merely to provide postwar employment, they say.

News

Design and construction

Developments afield

Building Regulations

Related Professions

Products Progress

To be comfortable at zero is the theme of experiments now being conducted at Purdue University's Department of Housing Research under the supervision of Carl F. Boester. Based upon radiant heating theories, Boester's ideas would have a tremendous impact upon conventional house design and construction. He points out that, if it is unnecessary to provide a bathingsuit-clad skier in Sun Valley with a portable radiator because the snow surface reflects sufficient sun heat to keep the skier warm, it should not be necessary to provide a heat resistant wall for buildings. Instead, he proposes an electrical heat source and heat reflective interior wall surfaces which need not resist heat transmission. Walls could be thin aluminum shells. We wish we knew more about this tantalizing prospect. When we do, we will pass the information along.

Public planning: Warner L. Marsh, landscape architect and planning consultant, and secretary-treasurer of the recently reorganized Sacramento Housing and Planning Council, holds that public misconception about planning and responsibility for executing plans, rather than failure of the planners to provide good programs, is the cause of unexecuted proposals of city plans. "Planning efforts have failed, and will continue to fail unless the public is a partner in the making and execution of plans, and unless all the cards are on the table face up," Marsh stated.

WPB Conservation Order L-41 (limiting construction) carries a new amendment, which should simplify proceedings, dated March 7, 1944. The new procedure relieves the applicant of the necessity of listing the amount and type of *all* materials required to complete a project begun in the same year. Applicant may check his own list of materials required with a guide entitled "Construction Limitations" which is included in the instructions to Form WPB-617. The guide lists current prohibitions and restrictions on the use of critical materials.

News

California Housing and Planning Association of San Francisco announces its worksheet on the following list of activities "that seem to us to need doing":

To work for sufficient war housing in California *now* to meet the full need of the stepped-up Pacific offensive as it develops.

To work for conversion to peacetime production of California's war industries (rubber, steel, light metal, shipbuilding, and aircraft plants, among others) with emphasis on *full employment* and *adequate housing* for workers.

To explore the practical use of *demountable war housing* on farms after the war, as the first step toward providing an adequate housing program for rural California; to work with all groups interested, to support and strengthen local housing authorities in carrying out plans developed, and to study all proposals for postwar use of demountable housing in the light of the *greatest public interest* served.

To work for a large scale *slum clearance* and blighted area program and the rebuilding of cities, primarily by private enterprise, with public enterprise assuming responsibility for that part of the program which does not come within the economic scope of private enterprise, such as parks, playgrounds, schools, and housing for low income families.

To continue an educational campaign on the value of *Regional Planning* as an instrument for building the kind of livable, modern communities best suited to serve the social and economic needs of their populations.

To work with all interested groups and to sponsor such *Legislation* as appears necessary to achieve these ends; to continue as a clearing house for information on housing and planning; to circulate pertinent facts as widely as possible.

The controversial Stuyvesant Town project in New York City (see Pencil Points, May and June 1943) is further upheld by a State Supreme Court ruling dismissing a suit brought by a sociologist, Elliot D. Pratt, on the grounds of questioning the constitutionality of the contract, signed by the city last August, giving the Metropolitan Life Insurance Company the right of eminent domain and a 25-year tax exemption. Justice Bernard L. Shientag pointed out that "a court of equity will not act in anticipation of possible future controversies which may never take place. A temporary injunction is granted only when the menace is imminent, when the rights of a plaintiff are being presently threatened so that irreparable injury will result unless prompt, immediate relief is granted. Clearly there is no basis for a temporary injunction in this case."

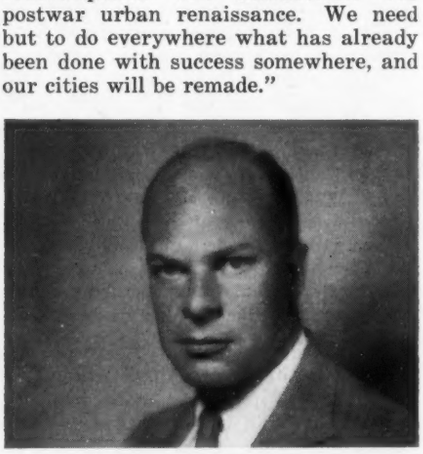
Bills to prohibit discrimination on the ground of race, creed, or color in tenancy selection for projects constructed under the Redevelopment Companies Law have recently been introduced in the New York City and New York State Legislature.

At a meeting of the management board of the Real Estate Board of New York in February, James Felt, head of James Felt & Company, an authority on housing and slum clearance problems, deplored efforts to mix anti-discrimination moves with attempted solutions of housing questions. He naively stated that redevelopment companies cannot be expected to cure all social ills because they were conceived to revitalize substandard areas; that, while racial discrimination and also the slum are repugnant to any socially minded citizen, joining these issues in efforts to clear Manhattan's substandard areas may be harmful to both causes. This, in spite of the fact that public funds are involved.

A resolution has been introduced in the New York City municipal legislature requesting the State Legislature to pass an amendment to the Public Housing Law authorizing the Commissioner of Housing to prepare and execute plans and specifications and to make an appropriation for slum clearance and the construction of low-cost housing facilities in the borough of Brooklyn.

Frank Lloyd Wright, in New York City on business in connection with a Guggenheim museum which he is designing, called on T. H. Robsjohn-Gibbings and said: "I've come to shake your hand." In Goodbye Mr. Chippendale (*reviewed in* PENCIL POINTS *last month*) *Robsjohn-Gibbings spoke quite nicely of Mr. Wright.*

Coordinating and strengthening citizenship cooperation with government at national, state, and local levels to form an alert, organized, driving force ready to fight local government corruption or lethargy and its connivers or condoners, is a challenging need, according to Harold S. Buttenheim, editor of The American City, in an address before the Boston University Institute on Postwar Problems. He further stated that real advances in municipal improvements can be found almost everywhere except in the congested slums and decaying areas of blight which are the outstanding disgrace of American city life; that postwar urban redevelopment must produce living and working conditions to "help to bring the country back into the city." He concluded: "A lively competition among American communities in such redevelopment will characterize our postwar urban renaissance. We need but to do everywhere what has already been done with success somewhere, and our cities will be remade."



Peter Schladermundt, architect, is a partner in the new industrial design firm, Van Doran, Nowland & Schladermundt, of 10 East 49 Street, New York City. He is a graduate of the Yale School of Architecture.

Prices and restrictions on building materials: OPA has granted a $3 per thousand increase in manufacturers' and dealers' maximum prices for shale and clay building brick (smooth, sanded, and wire-cut) produced in Ohio (with the exception of Cuyahoga County) "to permit producers to recover manufacturing and selling costs of this essential building material. . . . The demand for brick in Ohio exceeds the current volume of production. Shortage of lumber and other building materials has increased the necessity of maintaining production of brick by the 16 manufacturers now operating in this area. . . ." This action also permits dealers who purchase for resale from the manufacturers at the increased maximum prices to pass on the additional dollars-and-cents cost. (Last month OPA, in granting advances in lumber prices, required the middleman to absorb the increase.)

Blight Department, Mixed Metaphor Section *"FINGERS OF BLIGHT — WHAT STEPS ARE YOU TAKING?* Scores of American cities today are threatened with serious blight. Like the fingers of a grimy hand, they are projecting themselves into the very heart of the finest business and residential areas . . . .

—From "Building Cities is Your Business," issued by the Urban Land Institute.

Draftsman Wanted
Man or woman who can make good ink drawings for publication, who has average knowledge of architectural construction. No design ability required. Must not be subject to military draft. Give full particulars, salary expected, and photograph if possible, in first letter. This is a permanent job for the right person. Address Box 99, C/O PENCIL POINTS.

"To conserve lumber, wood wall sheathing is not permitted for exterior walls on flat roof. Framing lumber is limited to the minimum size and maximum spacing permitted by FHA minimum construction standards. Wood shingles are not to be used, except for roofing where alternate types of shingles are not available or where needed to repair existing wood shingle surfaces."—From *New York Times*, 2-20-44.
Why not eliminate exterior walls on flat roof? That ought to conserve something.

Air notes of interest to architects looking for new fields: The Railway Express Agency Air Express Division reports that combination rail-air express traffic handled for the nation's commercial airlines in 1943 gained 28.3 per cent over the previous year.
Reasonable estimates indicate New York should become the air terminal for some 600,000 international air travelers every year, CAB member Oswald Ryan recently told the New York Board of Trade.

Carl H. Henriksen, regional consultant of the Department of Commerce, also foresees New York as the nation's principal air terminal, saying: "Research into postwar trans-Atlantic passages should convince airlines New York offers their largest potential market."

The Cleveland Aircraft Products Co. proposes an elevated airport on the Cleveland lakefront to include runways built over a waste area in a deck-like structure supported by arches. Hangars would be on a lower level reached by large elevators from runways, with only the administration building at runway level. Inadequate access to the present Cleveland airport led to this proposal. An express highway from Cleveland's center, or acquisition of land in the downtown section, is being considered for speeding up accessibility to the present airport. It is claimed that the high cost of building an elevated airport would be offset by not building an express highway or by not acquiring valuable city property for a new airport.

Michigan Society of Architects is holding its 30th Annual Convention in Detroit on April 19th. Due to the war, it will be a one-day convention at which officers will be elected. William Stanley Parker, F.A.I.A., is listed as speaker at the annual dinner.

A bill to replace the present cost-plus and other systems of contracting for public construction by a system of negotiated lump-sum contracts has been introduced in the House of Representatives. The bill was subsequently referred to the Committee on Expenditures in the Executive Departments.

The 1944 Annual Convention of the A.I.A. will be held in Indianapolis, Indiana, on May 3, 4, and 5. Official headquarters will be the Claypool Hotel. Reservations should reach the Hotel not later than April 25. Officers are to be elected and regional directorships are to be filled from the Great Lakes District, the Middle Atlantic District, and the Western Mountain District. The State Association directorship is also to be filled.

The Regional Plan Association believes it knows the formula, at least for the New York region, for metropolitan area long-term prosperity. "If for every 100 persons who produce goods and services for people outside our region another 215 persons are likewise necessarily employed, then we know that for every 100 persons for whom we fail to provide basic employment we shall lose, eventually, 315 workers plus their families. Conversely, we know now that for every 315 families we need in order to keep the New York region from retrogressing—or, if we prefer, to keep it expanding—we have to provide just 100 jobs in basic industries—in production for 'export'—and the other 215 jobs will follow. A city—New York and its environs, explicitly—might have been as well off or better if it never had grown so large. . . ." The quotation is not as obscure as it seems. Study it and it will sound sound—and that's not tautology.

Corrections

The Cabrillo Homes Community Building at Long Beach, California, presented on page 36 et seq. of the February PENCIL POINTS should have been credited to Eugene Weston, Jr. and Walter L. Reichhardt, Architects. Mr. Weston's name was omitted through a regrettable error.

Mr. J. Davidson Stephen, author of *The Detroit Planning Studies*, reports an error in Figure 25 (page 63), which appeared in the second installment of the article, in the January PENCIL POINTS. The number of multiple houses in a community of 38,000 people should be given as 300 instead of 200. When he made this correction, Mr. Stephen also pointed out that the term "houses," as used in this illustration, means dwelling units. 300 double houses means 300, not 600, dwelling units.

The designers of the house for Mr. and Mrs. Ralph K. Davies, which was presented in the October, 1943 issue of NEW PENCIL POINTS, were incorrectly described as *Anshen and Allen, Architects.* The correct name of this firm is *Anshen and Allen.*

It has come to our attention that, in a few copies of the February, 1944, issue of PENCIL POINTS, credit for the schools at McLaughlin Heights, Vancouver, Wash., was unfortunately omitted. The schools were designed by *Day W. Hilborn, A.I.A.*

Copies of the classified PENCIL POINTS index for 1943, bound as a separate booklet, can still be obtained free upon request. Write to the circulation department, PENCIL POINTS.

News

Telesis plans to publish a West Coast issue of Task in May, if sufficient funds are ob-tained by then. The issue will deal with regional aspects of the general postwar planning and redevelopment problems. Telesis is also making a study of urban redevelopment legislation in relation to good planning and housing standards, in the belief that urban redevelopment will be one of the principal vehicles for postwar construction that will help maintain full employment.

On February 29th, Frank Lloyd Wright ran away with a radio program. He was heard in a discussion entitled "How Shall We Rebuild Our Cities?" on the AMERICAN FORUM OF THE AIR, along with Mrs. Samuel I. Rosenman, Herbert U. Nelson, and John J. McDonough, Mayor of St. Paul, Minnesota. Mr. Wright advocated abolishing our cities, and when his opponents in debate regained the floor, he could be heard in the background muttering balefully, "Money, money, money. It's always money, money, money."

The New York Chapter of the A.I.A. is making a vigorous drive for assistance for Mrs. Henry Bacon, widow of the designer of the Lincoln Memorial. This was done at the suggestion of the Executive Committee of the A.I.A. because Mr. Bacon was, until his death, a member of the New York Chapter. For a long time Mrs. Bacon has been financially embarrassed and almost completely dependent on the generosity of friends. She is 78 years old and, though in good health, unable to earn a living.

For several years some of her friends have attempted to get Congress to aid her financially. This project was based upon the fact that Henry Bacon spent approximately $27,000 of his own money, over and above fees, to complete his assignment. Included in the work for which he was not reimbursed were the cost of preparing models and paintings essential to perfect his designs, and traveling and hotel expenses incurred on approximately 36 trips a year between New York and Washington for the 11 years during which the Memorial was being planned and built. It has been ascertained that there is no background for formal claims, but the moral obligation upon all those who appreciate the Memorial and respect the memory of its designer is apparent.

The Committee on the Lincoln Memorial, whose address is The Architectural League, 115 East 40th Street, New York 16, N. Y., suggests that a five-dollar bill showing a picture of the Lincoln Memorial would be an appropriate contribution for those who cannot afford more.

News

Products Progress

Unit Heater

The Coroaire Heater, a new, gas-fired unit heater, was developed and tested just prior to the war. Now that federal restrictions on manufacturing such devices are partially lifted, production is planned to start shortly. The unit is approximately the size of a console radio, is said to provide winter air conditioning and to require no expensive installation procedure. It is to be sold by Coroaire Heater Corp. through gas appliance outlets.

Plastic Upholstery Material

A new highly fire-resistant upholstery material has been developed by the U. S. Rubber Co., Rockefeller Center, New York City, from plastics. Its use on Navy combat vessels is mandatory, and it is being used as turrent linings and seat coverings in bomber and fighter planes. In peace time it is expected to reduce greatly the fire hazards in auditoriums, night clubs, theaters, and in planes, passenger ships, buses and trucks.

Welding Electrodes

The Anthony Carlin Company, Cleveland, Ohio, has announced additions to its line of "Perfection" Welding Electrodes. Grade P-61 is a shielded arc, general purpose, straight polarity D. C. electrode for welding mild steel in all positions, designed especially for fast production where high currents are used and arc action is strong, and meets the requirements of A.W.S. Classification E6012. P-103 is a shielded arc A.C. electrode suitable for all position welding. It meets the requirements of A.W.S. Classification E6011 and A.S.M.E. Par. U-68. This electrode is also suitable for welding low-alloy high-strength steels when these steels are used primarily for their high strength properties. P-170 and P-180 are bare and wash-coated electrodes meeting the requirements of A.W.S. Classifications E4510 and E4511 respectively. These are straight polarity D.C. electrodes which have a broad field of application where the physical properties indicated in the specifications are acceptable. A revised catalog recently issued by the Company contains full descriptions of all of these new grades.

Greaseproof Flooring

Manufactured by the Tile-Tex Co., Chicago Heights, Illinois, Tuff-Tex tile flooring is said to be completely greaseproof, to have high flexural strength and impact resistance, to be easy to install, maintain, or alter, to be highly resistant to water and fire, and to be non-slip even when wet. It is intended primarily for industrial floors, kitchens, cafeterias, etc., and is available in five plain colors; five marbelized. Tiles come ⅛", 3/16", and ¼" thick, in sizes up to 18" by 24". Strips are available cut to order in multiples of ½" width up to 3".

Building Paper, Curing Compounds, Paints

"Richcraft," a light-duty, reinforced building paper, is available from a newly organized company, the Richcraft Company, whose offices are in the Builder's Building, Chicago, Ill. and in Westport, Conn. Richcraft is available up to 10 ft. wide. Heavy duty paper is to be made available later. Another Richcraft product is "Richcure," a liquid spray concrete-curing compound.

Kitchen Ranges

Norge Division of Borg-Warner Corp. announces resumption of production of a specified number of gas ranges for residences under WPB authorization. These are not "victory" models, it is said, but porcelain-lined, fully insulated, peace-time models, with oven, broiler, and 4 top burners. To purchase them, the ultimate buyer must obtain a certificate from his local rationing board.

Plastic Insect Screening

Dow Chemical Co. states that "Saran" plastic screening has performed so well at two Dow plants under adverse climatic and industrial conditions that greatly increased civilian use is expected when the material again becomes available to civilians. Dow supplies the basic material, which is fabricated by National Plastic Products Co. under the trade name, *Saran;* by Firestone Industrial Products Co., as *Velon;* and by Pierce Plastics, as *Permalon.*

Portable Ventilating Unit

Herman Nelson Corp., Moline, Ill., has developed a portable, self-powered ventilator. It was designed primarily to cool interiors of aircraft which were being repaired in hot climates. Several civilian uses are anticipated. The unit has a pressure-type fan, driven by gasoline engine or electric motor, connected to a collapsible fabric duct through which air is delivered at 4000 CFM when the fan attains 3400 RPM. Without duct, air delivery rises to 4500 CFM.

Lighting Fixtures

Edwin F. Guth Co., 2615 Washington Blvd., St. Louis 3, Mo., announces two new lighting fixtures. First is the new "Lightronics" fixture, a lightweight fluorescent luminaire with exposed lamps and a painted compressed wood reflector which is said to reflect over 75 percent of the light downward. It is designed for all types of mounting, is available with either conventional ballast and starter or Quick-Liter ballast for rapid lighting. Available for immediate shipment. Second is a new High-Bay line with aluminum reflectors, as authorized by WPB. These are available for immediate shipment on A-1-J (or higher) priority. Literature available.

Germicidal Lighting

The Hygeaire System combines the General Electrical germicidal ultraviolet light tube and a patented reflector in a fixture designed to project a zone of protection above human eye level, into which air-borne bacteria are carried by convection. Made by American Sterilizer Co., Erie, Pa., the unit is now available for industrial and commercial installations (as well as hospitals, etc.) from Graybar Electric Co. and General Electric Supply Corp.

Cold-Cathode Fluorescent Lighting

"Kold-Volt," Model 2081, is announced as the first standard, packaged, cold-cathode fluorescent unit for industrial lighting. It is said to be instantaneous in starting, with no flickering; to have a useful lamp life of 4 times that of the type F fluorescent lamp; to operate well at low temperatures; to be insensitive to line voltage variation; and to substantially reduce glare. Fixtures are 8 ft. long, lamps 7 ft. 9 in. long. Manufactured by Mitchell Manufacturing Co., 2525 No. Clybourn Ave., Chicago 14, Ill. Available from wholesale distributors.

Circular Slide Rule

"Monitor" slide rule is circular, 6 in. in diameter, made of white vinylite, greaseproof and waterproof. It is claimed to be accurate to .25 percent. Cost $2.95 without case; .75 extra for case. Tavella Sales Co., 27 W. Broadway, New York 7, N. Y.

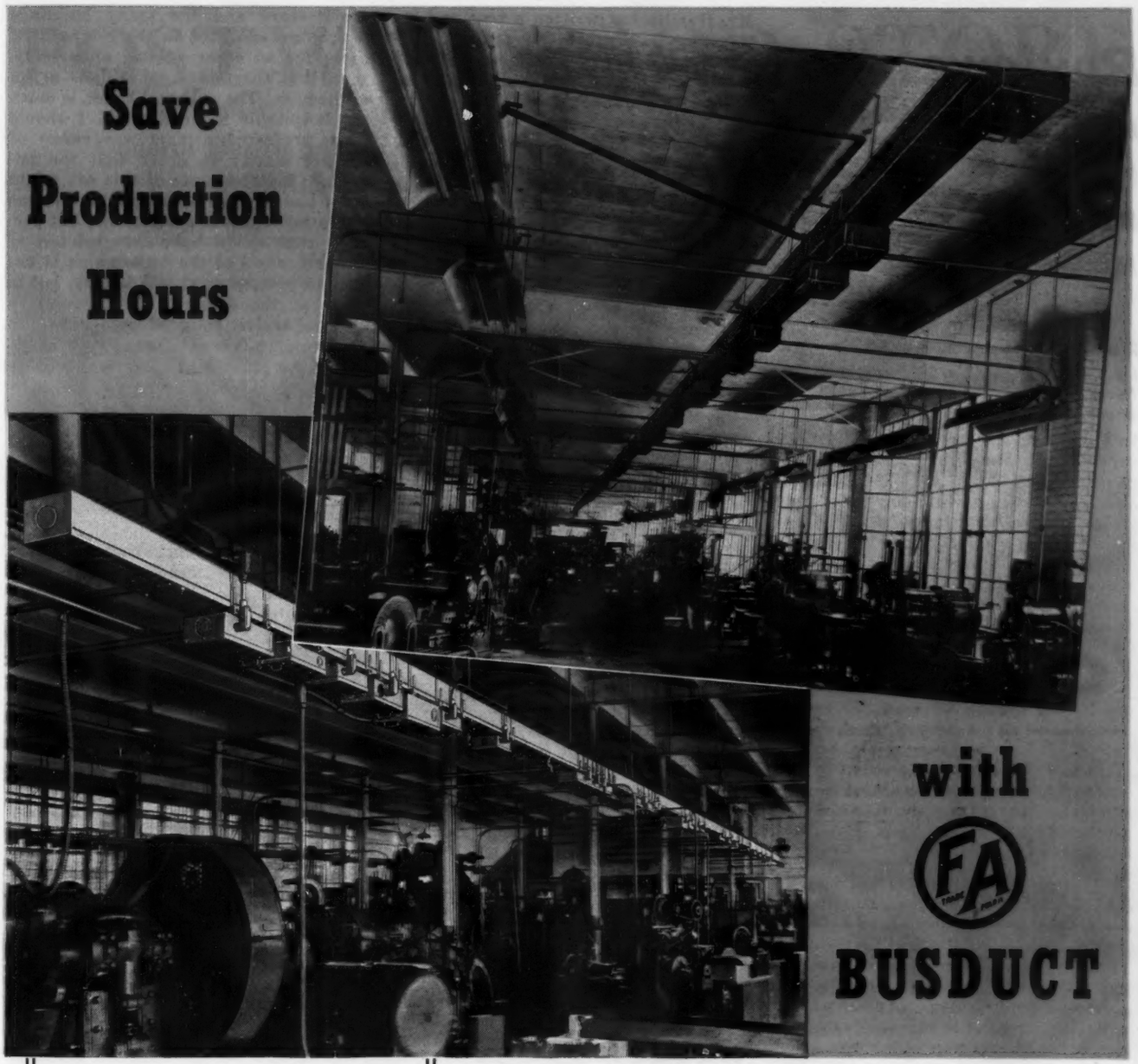
Stoker Timer Relay

"Thermo-Pilot" is a new primary stoker control which utilizes thermal action. It contains a bimetallic element which makes and breaks contact according to the amount of stored heat energy accumulated when electrical energy is applied. Length of operating cycle can be adjusted. Designed to replace clock-type mechanisms with a simple, long-lived unit. Perfex Corp., Milwaukee, Wisc.

Automatic Air-Conditioning Valve

Carrier Corp., Syracuse, N. Y., announces a new "thinking" valve designed to anticipate heating or cooling requirements in any room by admitting to an air conditioning unit exactly the required amount of hot or cold fluids desired, with no need for change in setting throughout the year. Once adjusted, the valve is said to assure proper compensation for changing weather, or for variations in requirements arising from changing numbers of people in the room. Use in industries where heating or cooling liquids, or both, are required at different times and in varying amounts, is anticipated.

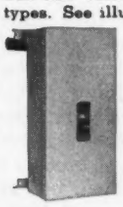
Save Production Hours



with FA BUSDUCT

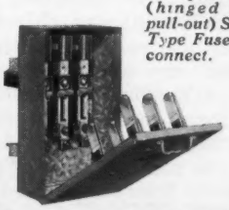
FA PLUGIN DEVICES

The FA Plugin Devices can be arranged to go on either or both sides of the Plugin FA Busduct, and each Plugin device is supported by independent fastenings. All FA Plugin Devices are equipped with proper capacity of rugged compression type bus bar connectors. They are made in three types. See illustrations below:



At left: FA Circuit Breaker Type

Below: FA Klampswitchfuz (hinged type pull-out) Safety Type Fuse Disconnect.



Above: FA Shutlbrak (operating Switch) with Kamklamp Fuse Holders.

This is the *modern* method of light and power distribution . . . Relocation of machines is readily accomplished, with minimum interruption of operating time. Just "move the machine—plug in—go"! . . . If desired, FA Busduct may be taken down and moved to new location—quickly, and without appreciable loss of material . . . Economical for small plants as well as large, this convenient and flexible system (designed for 2, 3 and 4 wire systems, 575 volts AC, maximum) is installed at surprisingly low cost.

The FA Sales-Engineer can help you in planning an efficient and convenient FA Busduct Distribution System. No obligation, of course. Write for name of the one nearest you—and for Bulletin 65 (and supplement) . . . Frank Adam Electric Co., Box 357, St. Louis, Mo.

FA Busducts are now made under W.P.B. Limitation Order L-273. They have the same basic features of construction as the standard model.

Frank Adam
ELECTRIC COMPANY
ST. LOUIS

Reviews

Books

Periodicals

Bibliographies

Manufacturers' literature

Greek Revival Architecture in America

by Talbot Hamlin. Oxford University Press, New York, 1944, 6¼" x 9½", 439 pages, 94 plates. $7.50.

In the second quarter of the XIX Century American architects with singular unanimity developed a style of expression based upon a vocabulary of forms which they believed to be Greek. These forms, given currency in the famous monograph of Stuart and Revett, were reproduced by instruments of precision, translated into homely materials, and applied to contemporary buildings. Grave, beautiful temples, compounded of archaeology and innocence, then peopled our cities new and old as far as the Pacific coast. Adapted for use as country and city dwellings, as churches, public buildings and commercial houses, these were fused into the existing traditions and into new inventions in plan and structure. To the architecture thus developed, historians have given the name *Greek Revival.*

Originated by aesthetes rather than by artists, the style nevertheless attained a remarkable vitality and, to some extent, captured and exhibited a true segment of contemporary thought and feeling. It ignored, to be sure, the revolution wrought by steam and machinery—ignored also the economic empire widening to the Pacific, the social war which was to end in the death of Lincoln—and yet there remained beneath and through these forces, which were to shape the future, the intellectual currents which had reached us and were still reaching us from the older nations across the Atlantic. These also sustained our culture: brittle, literary, polite, and academic, they were yet genuine. Emerson captures them, translates them into the American idiom and vitalizes them with American self-confidence; and so also does the Greek Revival.

It is this bookish flavor of our intellectual life which explains the curious paradox of this strange architecture. Into the ready vessel shaped by literary idea, by romantic sentiment, by political ideas stamped with popular approval, the young republic poured its shining ideal. Not what we were in those days is exhibited here, but what we remembered and what we aspired to be; and who shall say that remembrances and aspirations are not the proper materials of architecture?

Mr. Hamlin has written a true and interesting account of this architectural adventure. In pages that are marked throughout by clarity and distinction of phrase, by unaffected learning and by critical insight, he sets before us the varied and divergent phases of this "first American architecture." The conditions of use, climate, and topography which channeled the growth of the style; the personalities and political conditions; the ingenuities in structure and in the adaptation of structure to academic values: these are shaped into a pageant full of color and intriguing incident. We are shown, in good pictures and clear descriptions, the masterpieces of the era and the many echoes which these evoked throughout the land. The architects appear before us: the tragic and ingenious Latrobe; the brilliant Ramee; Mills, serious and insensitive; Davis, aristocratic and scholarly. We are persuaded of the dignity, charm, and quiet serenity of the style they practised.

An entertaining history, an illuminating study in the psychology of idealism, the book also arrests us by an unpronounced persistent relevance to our own day. We apprehend as we read the lesson which these temples teach us: that good architecture is not dependent upon the nature of its elements or upon their provenance. Out of the codified forms discovered in the dry pages of archaeologists, out of the debris of a culture two thousand years remote from their own, the architects of the Greek Revival shaped new and eloquent patterns of space and structure. Whatever their limitations of vision and experience, they yet apprehended the *idea* of architecture. That, and not the Greek precedent, is their intangible and precious heritage. Stripped of its Hellenic elements, the New York Sub-Treasury would still shelter the finest interior in New York City and even if in Philadelphia William Strickland did not, as Mr. Hamlin tells us, "domesticate the Greek details," he could nevertheless enclose in his Puritan Parthenon sequences of space unrivaled in nobility.

Mr. Hamlin tells us that the Greek Revival ended with a change in our national culture—a culture which, having been "rationalist and theocratic, became primarily aesthetic and libertarian." He has gone, it seems to me, too far afield for his explanation, which is made all the more confusing by references to logic and to the "ostentation of the new-rich." There was never a change in culture so profound or any logic so compelling as to defeat a truly vigorous architecture; and at what period have the new-rich failed in ostentation? The Greek Revival was not so rooted in the soil as to require a hurricane to dislodge it. That fragile flower quietly withered with the pale literary preoccupations which had nourished it.

If I were to find any fault with this admirable book I should find it in the failure of the author to discriminate more sharply between works of genuine architecture and the many buildings which are admitted to the company of these for no other reason, apparently, than that they wear an echinus or an anthemion. The author, I think, is much too hospitable to mediocrity. I should have preferred a narrower range of subject matter in order that the important achievements of this art might have had a more adequate illustration and a more just appraisement; but perhaps that would have defeated one of the intentions of the book which is not only to present a critical history, but to place at the disposal of the public a comprehensive book of reference. In that respect it leaves nothing to be desired. An evident and balanced organization, excellent, well-organized pictures, a functional index and a detailed bibliography make this book an indispensable one to the student of American architecture.

JOSEPH HUDNUT

Promoting the Architect

An attractive and well written booklet entitled *How to Plan Your New Home* is available for distribution by architects (with or without their own imprint) to prospective clients. It was published by Edwards & Company, Norwalk, Connecticut, with the collaboration of the Committee on Public Information of the A.I.A. It presents, in terms the layman will understand, the various reasons why he should not undertake to plan and build a house without engaging the services of a competent architect.

Library Planning

Post-War Standards for Public Libraries. Prepared by The Committee on Post-War Planning of the American Library Association, Carleton Bruno Joeckel, Chairman. 92 pages, 1943. Available from the American Library Association, Chicago.

Number One in a series under the general title *Planning for Libraries,* this booklet represents a compilation of research and advice from library-planning experts ranging from library officials to architect-specialists. The standards were originally prepared at the request of the National Resources Planning Board.

Of particular interest to architects is the chapter, *Standards of Buildings,* which includes general principles, planning details, and building costs—data based largely on recommendations in Wheeler and Githens' book, *American Public Library Building.* But no library designer can fail to benefit by familiarity with related data reviewed under such headings as "library objectives," standards of "service, government and administration, size and area, finance, book collection, personnel, and technical processes." Small in size, the booklet is broad in outlook and recommends that libraries of the postwar period "should depart decidedly from the all-too-typical building of today."

(Continued on page 26)

POSTWAR FOOD STORE

General Electric presents an interpretation by
MORRIS SANDERS, AIA

This is the first of a series of visualizations on postwar lighting. General Electric commissioned several leading architects and designers to make them; and offers them as stimulating suggestions that will help you make light serve your clients most effectively.

Sketch of fluorescent fixture suggested for fruit and vegetable section. For decorative effect, these would be mounted in coffered laminated ceiling panels.

This suggested luminaire for the grocery section would provide general lighting of floor and ceiling and concentrate light on adjacent stock shelves.

As you plan for postwar, or for present, remember this: Good lamps are the *heart* of any lighting installation. The creed of General Electric Lamp Research is to make G-E lamps

Stay Brighter Longer

Hear the General Electric radio programs: "The G-E All-Girl Orchestra", Sunday 10 p. m. EWT, NBC; "The World Today" news, every weekday 6:45 p. m. EWT, CBS.

G-E MAZDA LAMPS

GENERAL ELECTRIC

BUY MORE WAR BONDS

1600 students tramp this floor every day

... yet it stays fresh and young-looking even with the simplest of care!

IF you divide the initial cost of the floor in the hall above by the 18 years of constant service it has given, you'll have an answer that's bound to interest any client—*economy!*

This Armstrong's Linoleum Floor was installed in the halls of the New Rochelle, N. Y., High School, back in 1926. Since that time, an average of sixteen hundred students has scraped and scuffed its smooth surface every school day. Yet this Armstrong Floor is still in good condition, still looking young, still giving promise of many more years of service.

And year after year, this Armstrong Floor has been easy and economical to maintain . . . quiet and comfortable underfoot. A light vacuuming daily, plus an occasional washing and waxing, has been all the care necessary. And in spite of all the traffic and wear it has taken, this smooth surface linoleum floor has never required costly refinishing.

Any client would be thankful for such long-lasting and easy-to-care-for floors. And the service record of floors like these is likewise a real credit to any architect.

BACK UP YOUR SPECIFICATIONS

So when you are selecting floors for your client, give your specifications the support of long-lasting, economical Armstrong's Linoleum. For more details see *Sweet's*. And for samples and file-sized specifications, just write Armstrong Cork Company, Floor Division, 6904 State Street, Lancaster, Pennsylvania.

ARMSTRONG'S LINOLEUM

Made by the makers of

Armstrong's Monowall, Temlok, Cushiontone, and Asphalt Tile

Reviews

(Continued from page 22)

Manufacturers' Literature

Air Conditioning

Catalog AC-161,, 12 pages, Carrier Corp., Syracuse 1, N. Y. (March)

Concrete

Modern Developments in Reinforced Concrete (No. 9), 20 pages, Portland Cement Association, 33 West Grand Avenue, Chicago 10, Ill. (Feb.)

Concrete

Sika Chemical Corporation Folder, 4 pages, Sika Chemical Corp., 35-49 Gregory Avenue, Passaic, N. J. (March)

Smooth Ceilings System, 4 pages, Metropolitan Life Building, Minneapolis 1, Minn. (Feb.)

Q-Data No. 1 is the first of a series of leaflets published by the H. H. Robertson Co., Farmers' Bank Building, Pittsburgh, Penna., which will give details on Robertson Q construction for floors, decks, panels, and partitions.

Doors

The Bilco Company, 164 Hallock Ave., New Haven, Conn., has a new bulletin on their type 03, 02, and 01 cellar bulkhead doors for residences, including complete descriptions, construction features, hardware, method of installation, etc. The title is: *Do Away With Dead-End Cellars This Modern Way.*

Electrical Equipment

Busways and Wireways, 36-page bulletin, Square D Company, 6060 Rivard Street, Detroit 11, Mich. (March)

Cannon Signal Systems, 16 pages, Signal System Dept., Cannon Electric Company, 3209 Humboldt Street, Los Angeles 31, Calif. (March)

Engine Controls

Engine controls for wartime and postwar uses, in power plants, industrial buildings, rural electrification, air conditioning, refrigeration, etc., are displayed in "Automatically Controlled Gas, Gasoline, and Diesel Engines," issued by Synchro-Start Products, Inc., 221 E. Cullerton St., Chicago, Ill.

Glass

Richards Daylighting Products, 6 pages, J. Merril Richards, 119 West First Street, Boston, Mass. (Feb.)

(Continued on page 116)

Normalcy Won't Do

The forthcoming A.I.A. meetings at Indianapolis should find the delegates in a sober mood. They will be conscious of the many problems the profession must solve if it is to re-establish itself as a significant and effective force in postwar society. While the meetings themselves cannot reach final decisions, they will indicate the official position of the national body of architects on many vitally important topics.

This being the case, it is regrettable that the percentage of younger men among the delegates will be smaller than usual due to the war, and that, consequently, there will be a more than usual tendency toward conservatism. To say this is not to deny the valuable qualities of older minds which are always needed as a balance for the impetuosities of youth. But the older heads, if as wise as reputed, will remember that the world has been violently changing and that it will continue to change (less violently, we hope), whether they like it or not. They will have the responsibility of representing not simply themselves, but also the young men who will be returning from the wars one day, and who will be impatient with any rigid patterns that may have been set for them during their absence. It is a time to establish flexibility in policies for the future rather than rigidity.

One of the important things to be considered will be ways and means of reabsorbing the erstwhile architectural men who have been in the armed forces or in war activities outside of architecture. We believe that the Institute, both from its central headquarters in Washington and acting through its several chapters and affiliated associations, should soon set up some form of placement service which would undertake to help the men to find jobs as expeditiously as possible. This service should be open to both architects and draftsmen. The reasons for setting it up are not simply to find jobs for the men, but to find men for the jobs, which we suspect will be rapidly materializing in many centers throughout the country as the postwar building program gets under way. It seems very possible that there may develop an actual scarcity of men in some sections at that time.

In line with this thought, the Institute at Indianapolis may well consider the possibility of asking the army and navy authorities to put architectural men at or near the top of the list for quick post-victory demobilization. Such a request, we understand, has already been made in England in anticipation of an urgent early need for architectural and planning technicians to prepare plans which will provide work for millions.

We believe the Institute should also adopt a policy of encouraging architects to expand their services to society through increased participation in some of the fields akin to architecture. We do not advocate undue encroachment into fields already preempted by engineers, planners, decorators, and industrial designers (even though representatives of these groups have not been hesitant about poaching on the architects' preserves). We do, however, feel that the architect has capacities in these directions which he has too frequently and too long neglected, and which could perfectly well be exercised for the benefit of society as well as for his own profit. Official recognition and sanction would clear the way.

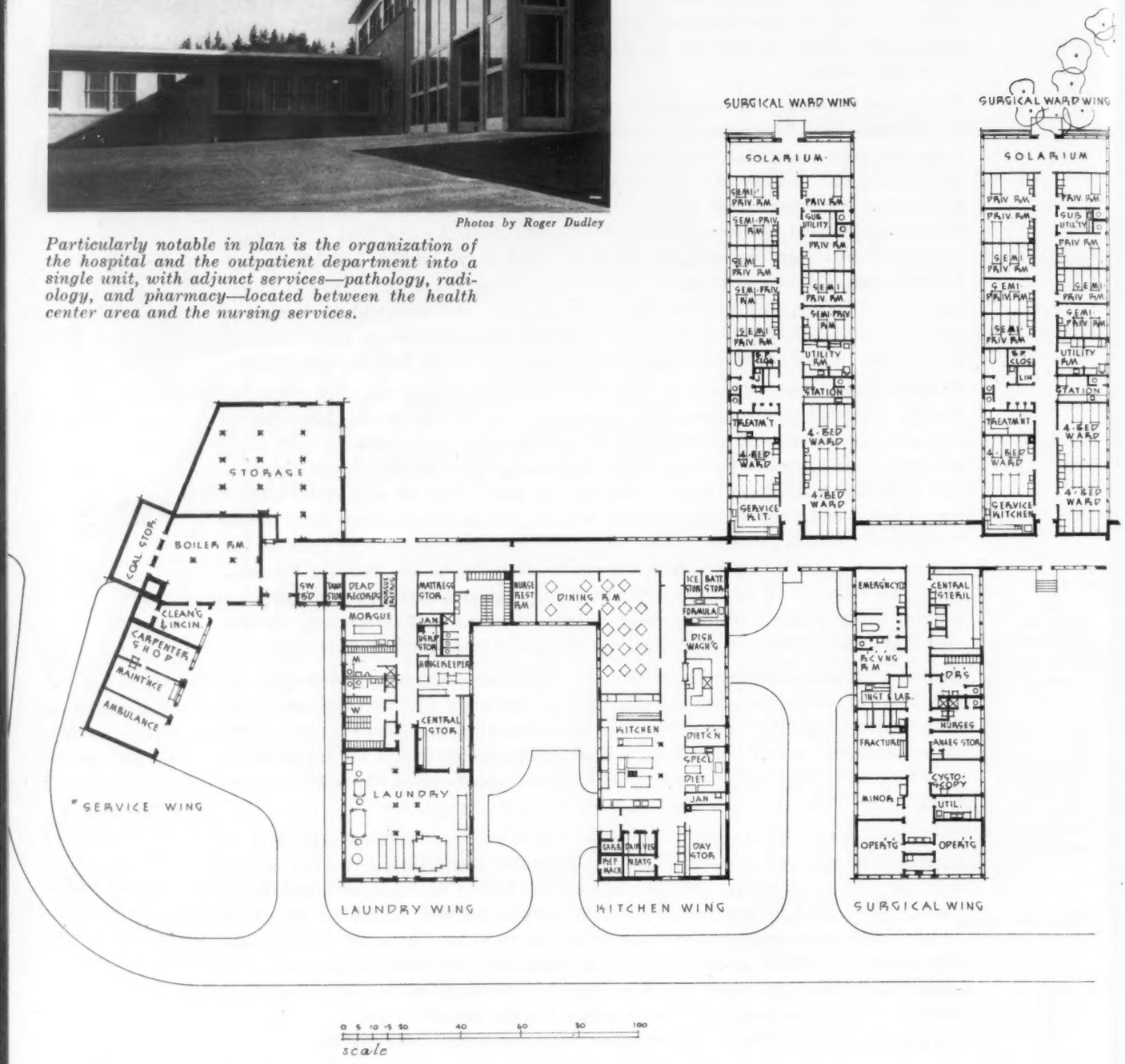
The delegates should properly be concerned with the future of architectural education; with changes that may be desirable in the architect's way of doing business; with the possible undertaking by the Institute of new methods of obtaining and disseminating reliable technical information; with projects (similar to those of the RIBA) for public education in regard to the nature and necessity of thoroughgoing replanning and rehabilitation of cities. These and other things that come readily to mind are challenges to the sense of responsibility of a really vigorous national body of architects such as the Institute intends, we take it, to become. Action on these matters rather than inconclusive debate will be evidence of the sincerity of this intention.

Kenneth Reid

Franklin D. Roosevelt

Photos by Roger Dudley

Particularly notable in plan is the organization of the hospital and the outpatient department into a single unit, with adjunct services—pathology, radiology, and pharmacy—located between the health center area and the nursing services.



COMMENT* by Thomas Parran, M.D., Surgeon General, United States Public Health Service

"Before the war, many urban areas in the United States lacked adequate, safe water supplies, sewage disposal systems, and other sanitary facilities. The war intensified these needs and created new demands in areas where large military and industrial installations were constructed. Through the provisions of the Lanham Act, only the most urgent of these needs have been met, and our public health engineers estimate that it will take an expenditure of about $300 million annually for 10 years to correct present deficiencies in sanitation facilities of all types.

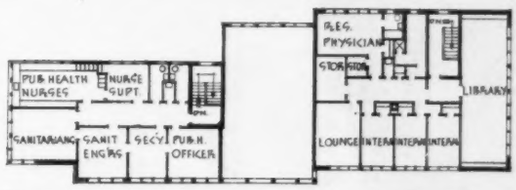
* *Excerpts from a speech, "The Expanding Field of Public Health and Preventive Medicine," delivered before the 40th Annual Congress on Medical Education and Licensure, American Medical Association, Chicago, Feb. 14, 1944.*

Hospital, Bremerton, Washington

Architects: F. A. Naramore & Associates, Clyde Grainger, A.I.A., Clifton J. Brady, A.I.A., Perry B. Johanson, A.I.A.

Planning Consultants: Hospital Facilities Section of the U. S. Public Health Service; Marshall Shaffer, Chief Architect; Neil MacDonald, Consultant

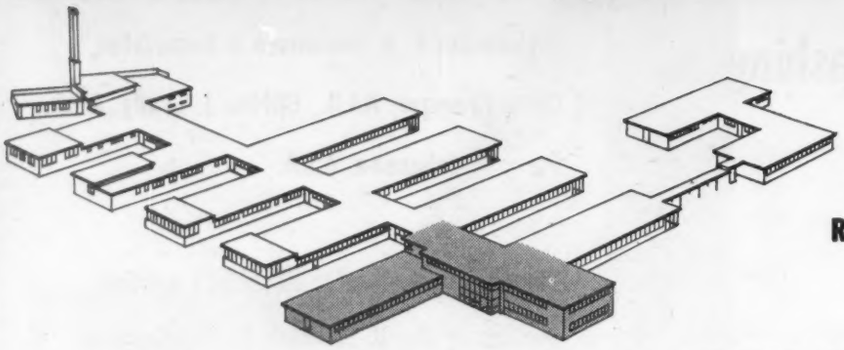
Construction: Emergency Operations Unit, Public Buildings Administration



Second Floor
Administration Wing

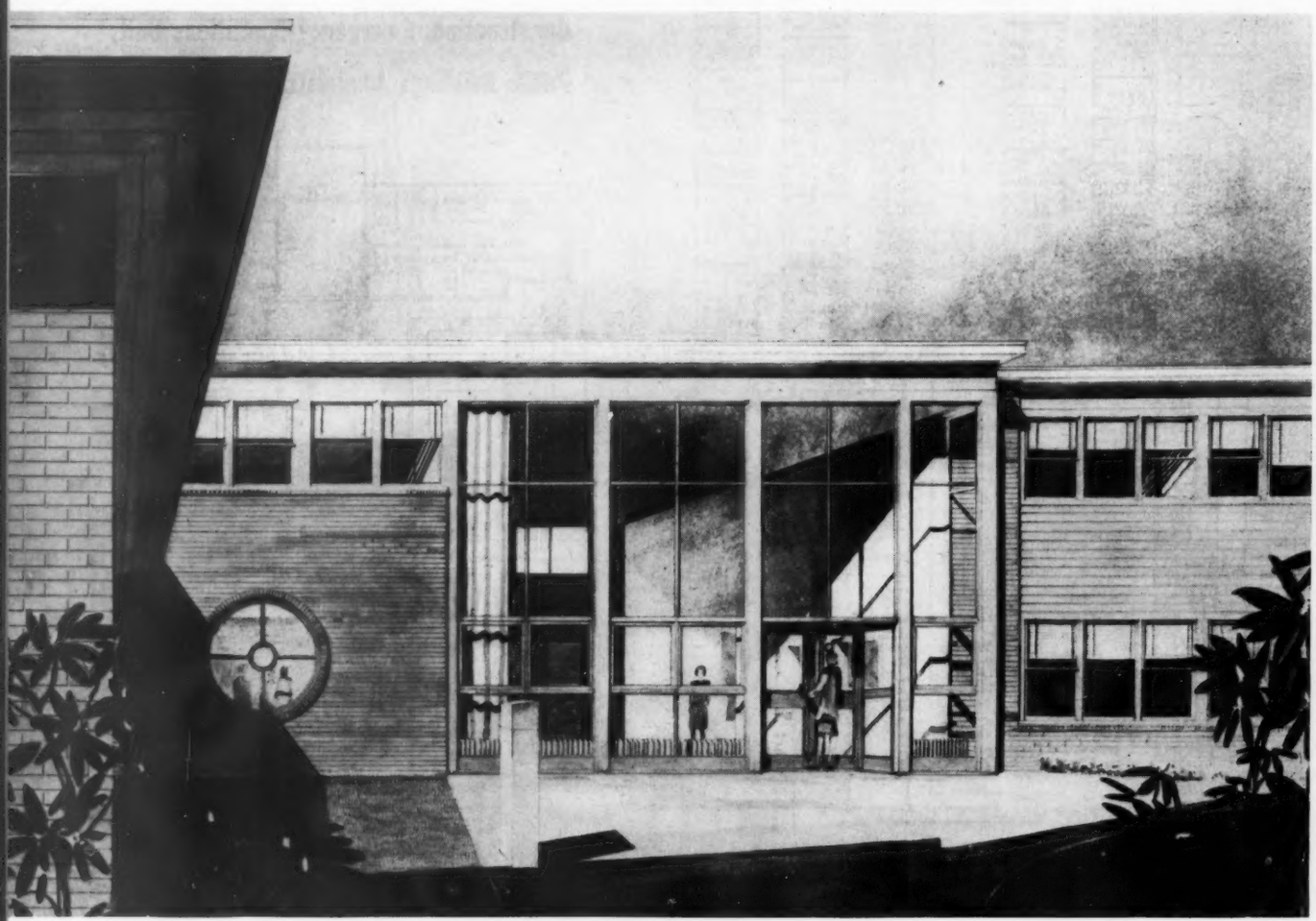
"Even more acute has been the shortage of hospitals and health centers. To date, under the Lanham Act, administered by the Federal Works Agency, hospitals with a total bed capacity of about 10,000 have been constructed or converted. Health centers, designed to house local health departments as well as clinical and diagnostic facilities, have been constructed in a number of communities. The provision, in Federal Public Housing projects, of infirmaries, health centers, and office quarters for private physicians has also helped to alleviate the shortage of health and medical facilities in war industrial areas.

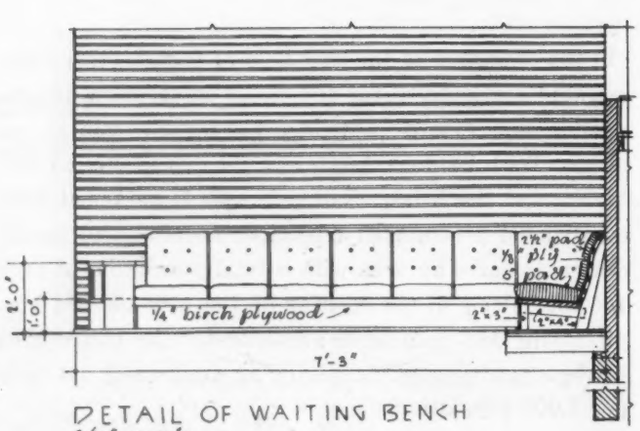
"In the operation of the new type of facility, there is a splendid opportunity for the closer integration of preventive and curative medicine. Let me give you an example. With Lanham Act funds, the city of Bremerton, Wash., and the Kitsap County Health Department have constructed a combined municipal hospital and health center, to serve an area with a total population of over 106,000. Prior to the opening of the new 106-bed hospital, only 153 beds were available for the entire area in registered general hospitals, approximately 1.4 beds per 1,000 population.



Roosevelt Hospital, Bremerton, Washington

Originally designed as a 6-story reinforced concrete structure to top one of Bremerton's many hills, the hospital-health center was worked out in the one-story pavilion scheme because of the ban on reinforcing steel.



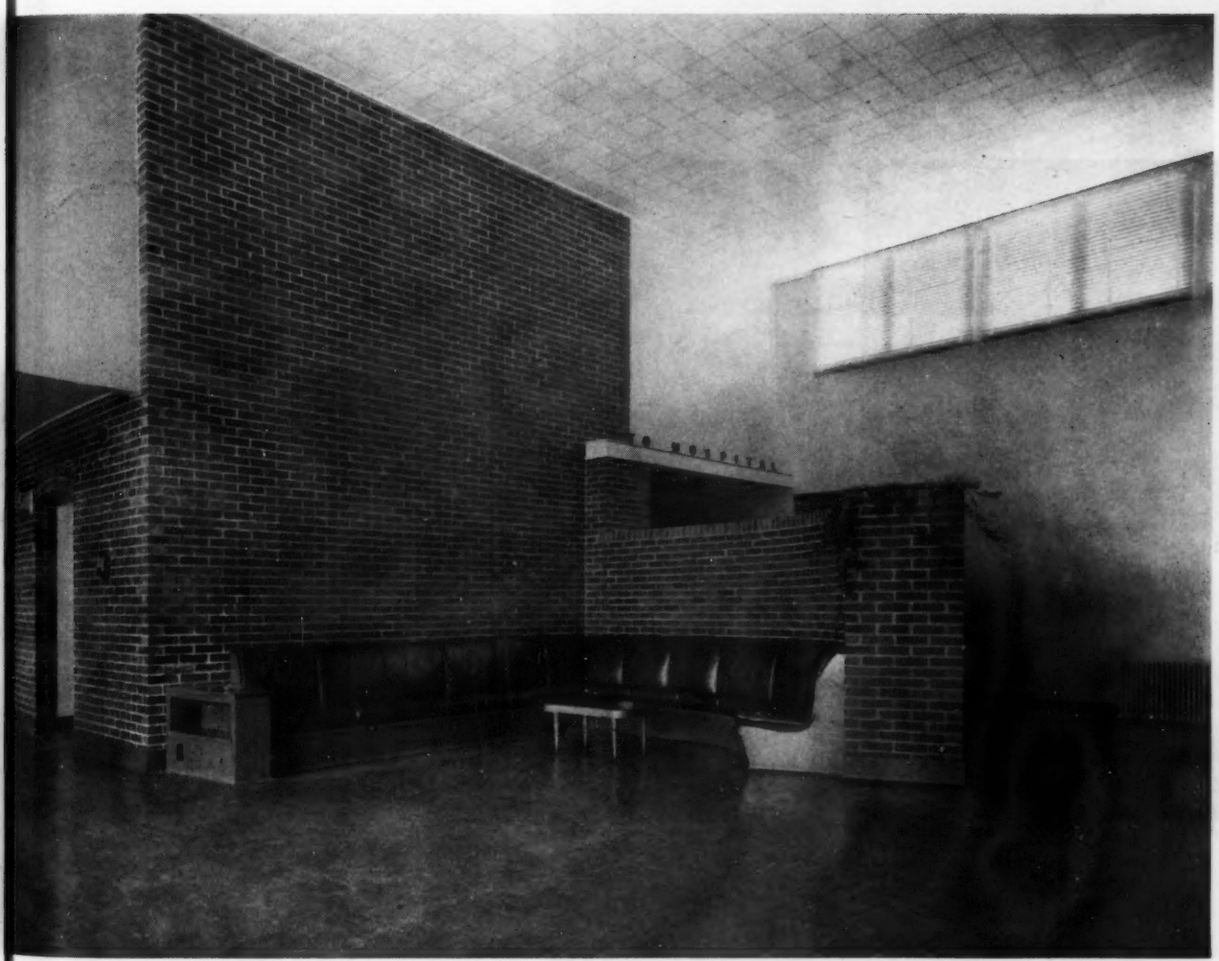


DETAIL OF WAITING BENCH
3/16" scale

"The plan of operation of the hospital and public health center at Bremerton has been developed jointly by the local medical society and the local health department.

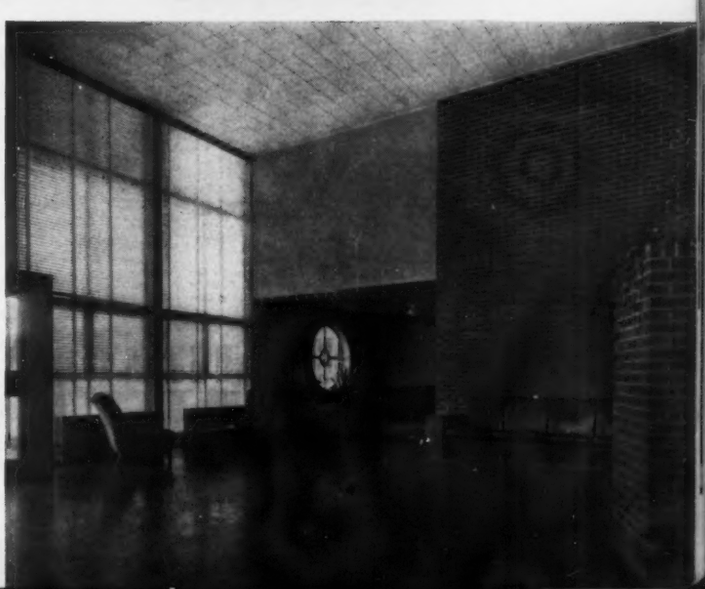
"Laboratory and X-ray facilities of the institution are used jointly by the hospital and the health department, thus making available good diagnostic facilities for the private practitioner and the public. Through the coordinated program, the medical profession and the health department staff are working together to bring potential patients to early, preventive hospitalization. Since the Blue Cross Plan has been widely adopted in the area, there is no economic barrier between the patient and necessary hospital care. The physicians also make use of the nutritionists and nurses of the health department

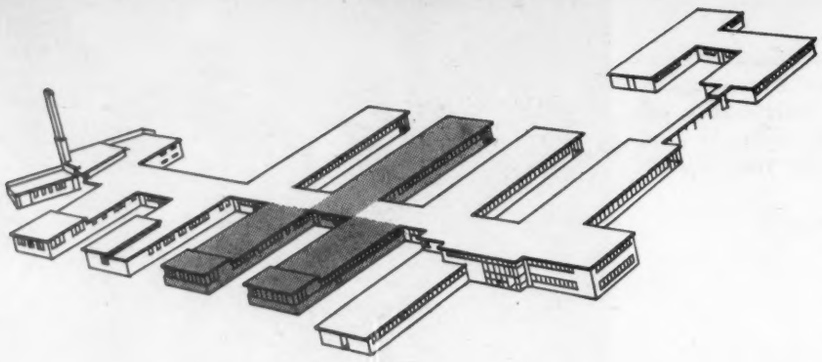
The adopted structural system employs a minimum of critical materials. Foundation walls are concrete. Exterior walls are brick veneer, with occasional areas (particularly adjacent to window strips) surfaced with lap siding or flush boarding. Trim is of wood throughout. The roof is 4-ply roofing.



in the instruction of patients while they are in the hospital and in the follow-up of discharged patients. The maternity and infant care programs are closely integrated with the work of the hospital and the physician.

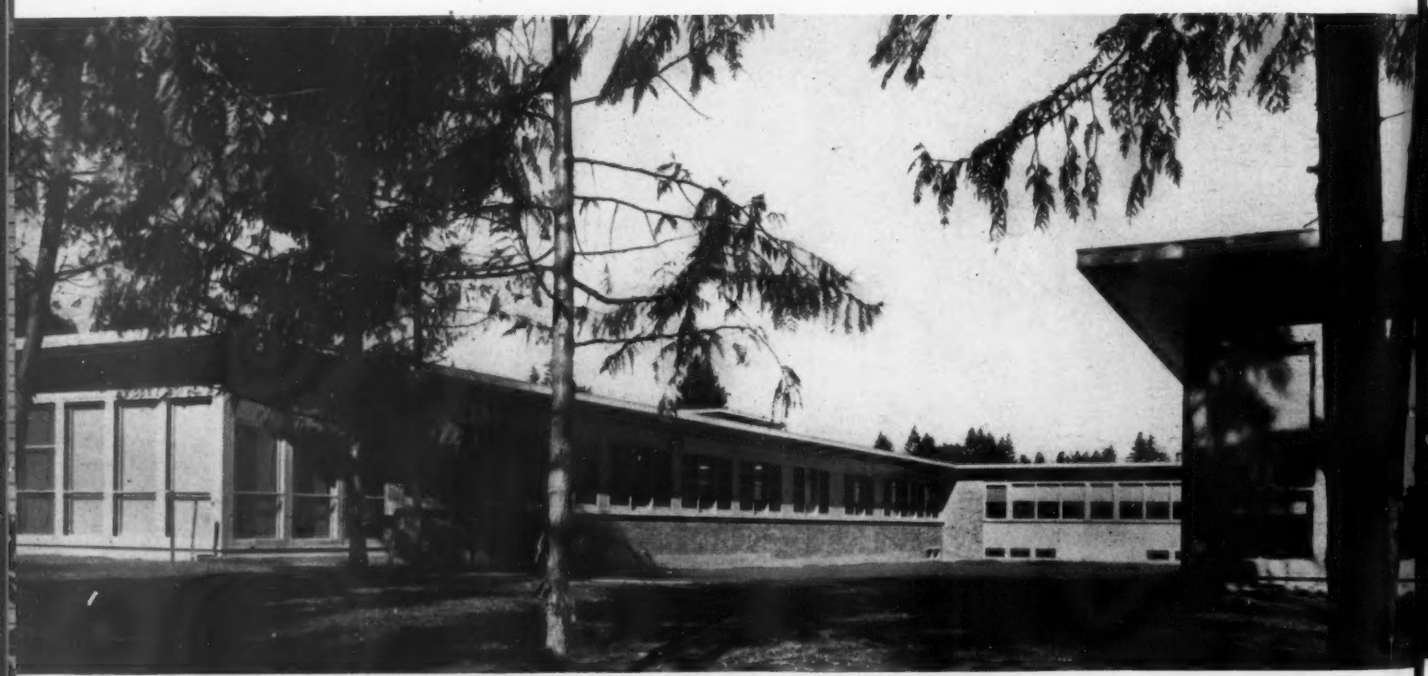
"The tuberculosis clinic, oper. both to private and nonpaying patients, affords the practitioner the opportunity for X-ray diagnosis of patients and their contacts. It is planned to make available certain consultant services at the hospital-health center. For example, the hospital expects to have a physician specially trained in the new intensive treatment techniques for syphilis. A few beds will be designated for syphilis patients, in order that the local physicians may take advantage of the opportunity to learn and use the rapid treatment methods.

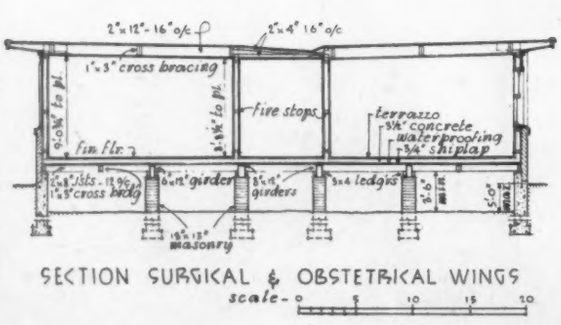




Roosevelt Hospital, Bremerton, Washington

Each nursing wing provides for 26 beds normal capacity, with 34 beds maximum capacity. Walls are plastered and painted; ceilings are surfaced with acoustic board. Main floors are asphalt tile, with hardwood cove base, except in the obstetrical and surgical wings where terrazzo floors and base are used. In the kitchen and laundry, the floors are concrete.



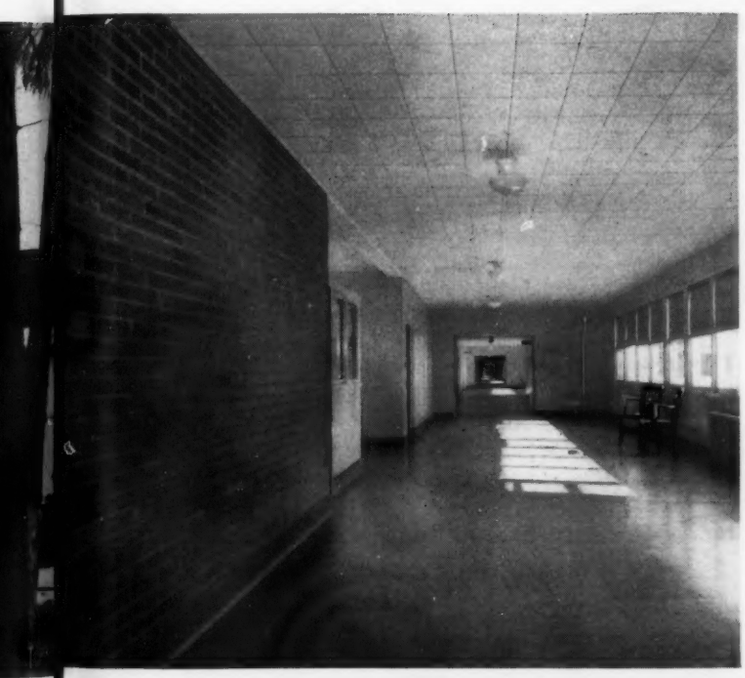


SECTION SURGICAL & OBSTETRICAL WINGS

scale- 0 5 10 15 20

"I have gone into some detail about the Bremerton program because heretofore we have talked about the construction of hospitals and health centers in needy areas thoughout the country without having much to say specifically as to how they would operate for the benefit of medical practice and of the community as a whole. . . . More facilities of this type are needed now and will be in great demand after the war. Properly located, scientifically equipped, and adequately maintained, they should aid importantly after the war in helping to attract some of the physicians now serving in the armed forces, to areas most in need of their services. Doctors from the small towns, who were the first to go, will not be willing to return unless better facilities are available in their communities. Men who went straight into the services after interneship will not be drawn to areas needing medical service unless they can be assured of the good facilities they have been accustomed to."

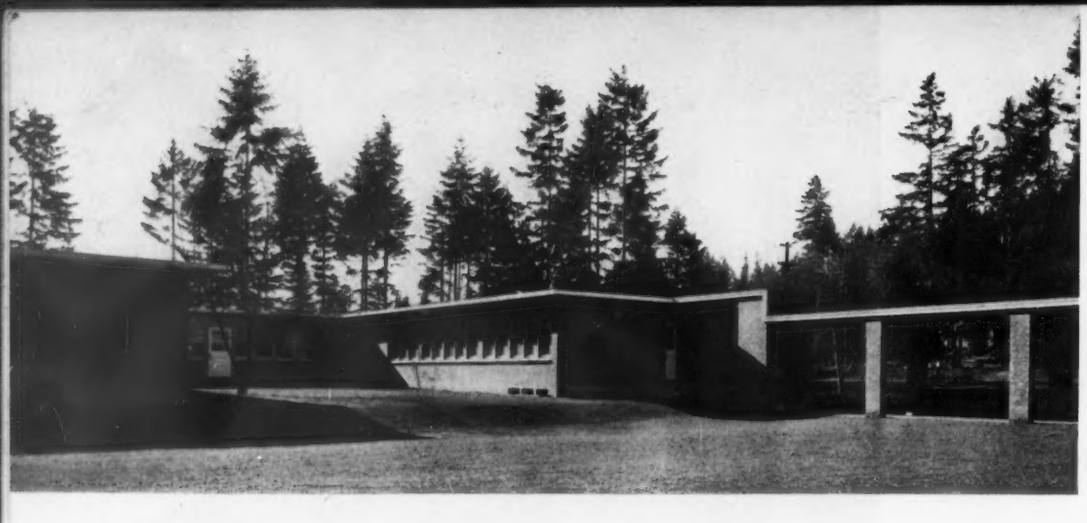
Nursery



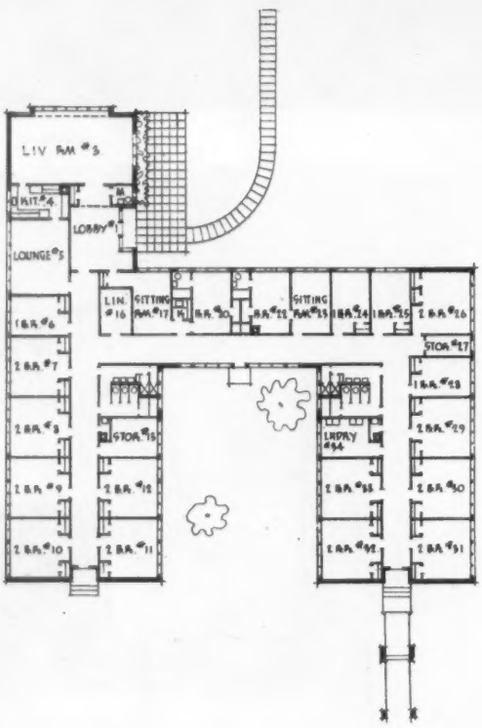
Main Corridor

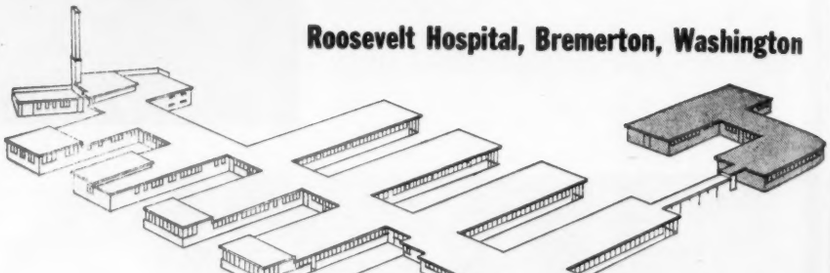
Semi-private Room

Wash-up and Operating Rooms



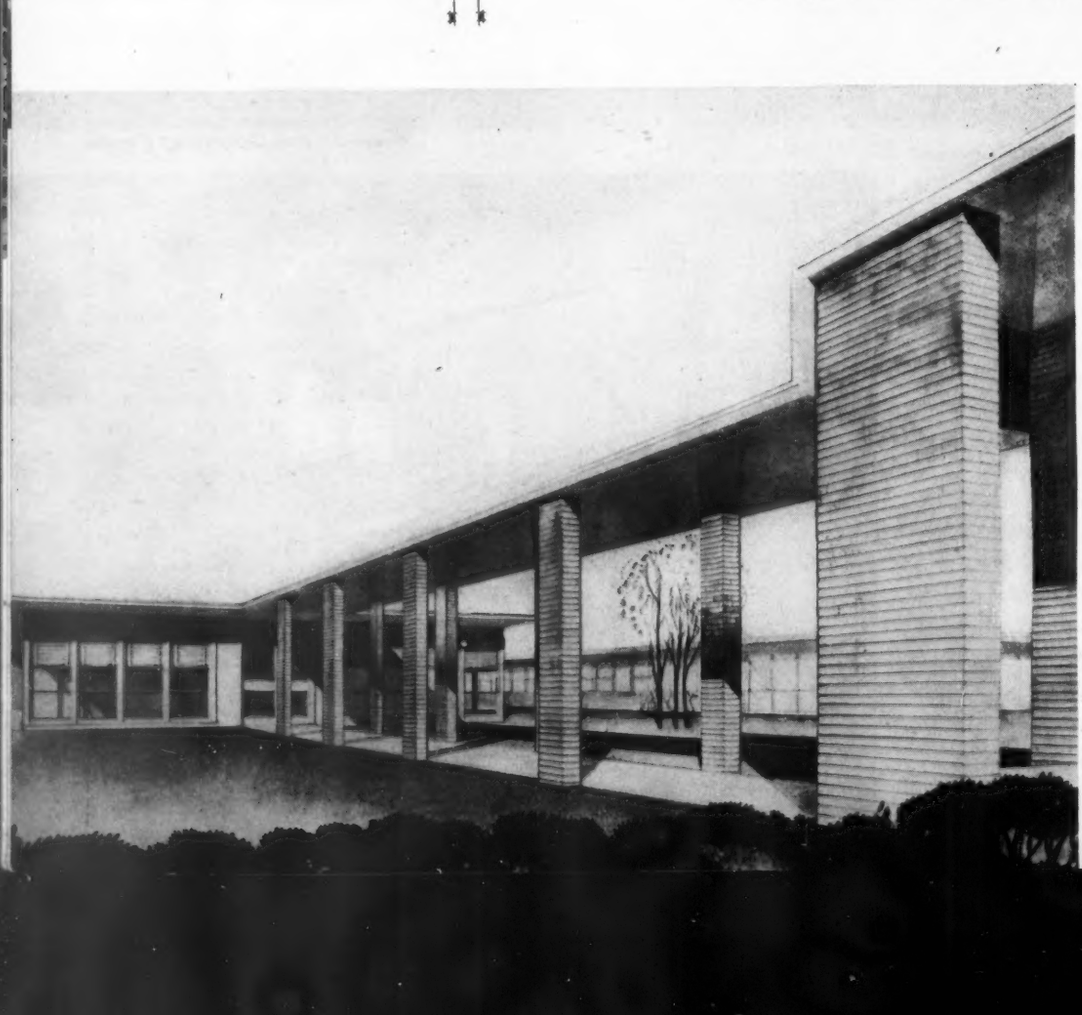
Roosevelt Hospital, Bremerton, Washington





Nurses Home

The nurses home is connected to the main group by a covered walk from the Medical Ward Wing. In addition to the bedrooms and toilet facilities, the U-shaped building contains a laundry, sitting rooms, lounge and general living room, and small service kitchen. The structural system is the same as that of the hospital.



Perspectives

Shy Missionary: Marshall Shaffer

One day during the winter of 1937 a group of young men were prowling among the exhibits in the Museum of Natural History in New York, under the guidance of a stocky, mild mannered, stutteringly enthusiastic instructor. *Les anciens élèves* would never have believed that the young men were studying architecture, but they were. Marshall Shaffer was teaching the senior architectural students at Pratt Institute to design houses by showing them skulls. Shaffer, now chief hospital architect for the U. S. Public Health Service, is still teaching. The Service calls it "consultation and planning service for local communities and government agencies on hospital and related health facilities." In simple words, that means Marshall Shaffer explaining the elements of social planning to anyone who will listen.

Marshall is such an enthusiast that he embarrasses himself. His apparently retiring nature is a self-restraint, imposed as a kindness to those odd creatures who are not willing to talk modern architecture twenty-four hours a day. He has discovered that there are such people; he has found that there are some men, calling themselves architects, who will not even *practice* modern architecture. To correct this condition is his aim, with a full, if unwilling, realization of the size of the job. He is a shy missionary.

Marshall began practicing architecture long before he was old enough to have a license. A roller coaster in his own back yard in southern Ohio, conceived, designed empirically, and built by himself (financed by his father, who was a banker and dealer in building materials) was the first project. It was strictly functional—no Coney Island influence—and it worked. From then on it was inevitable that the boy would study architecture and engineering, if only to find out why that first structure hadn't fallen down.

At Penn State he studied with enough diligence to make an honorary fraternity, read avidly in many subjects besides architecture, and pondered very deeply on the status of design. Graduating, the ardent young Shaffer migrated to southern California.

When he graduated from Penn State, the ardent young Shaffer migrated to southern California. The Okies, who came later, were driven from their native states by soil erosion. Marshall and some others were fleeing, they felt, an eroded creative instinct caused by successive plantings of the same architectural ideas. In California he came under the influence of such master preparers of the soil as Myron Hunt and Bertram Goodhue. At just this time a new seed was brought from Central Europe, carefully wrapped in obscure terminologies, by one Richard Neutra, who, after a brief, vain attempt to cultivate it in the east, dropped it in the receptive California soil. Marshall and a few other young men "gathered around Neutra," as he modestly expresses it, and helped nurture the new plant. He has been displaying several of its large blossoms ever since and saying to the rest of us, "Look what *you* could grow if you'd do a little spade work and throw some manure around."

Shaffer's responsibilities increased, he won several competition awards, and with Neutra he was American delegate to the Third International Congress of Modern Architecture at Athens in 1932. Coming back to the east, his missionary ardor led him to educational work. He designed some very successful exhibit material, was consulting designer for the Federal Works Agency, wrote a book which has never satisfied him sufficiently to warrant letting it brave a publisher's scrutiny, and taught "socio-economic architecture" at Pratt Institute.

Shaffer is one of the increasing number of architects who regard their professional work as part of a larger problem—the better adjustment of our economic structure. At one stage in his career he worked with Stuart Chase searching for "the root causes of economic depressions." Like many technical people who indulge in economic or political thinking, he has a bias—Thorstein Veblen has influenced him considerably. Charles Beard, Lewis Mumford, Patrick Geddes, also occupy space on his book shelves. Again like many technical pundits, he tends to becloud perfectly lucid thoughts by the use of techno-mystical words. Marshall must write of "getting the machine under control" when he deals with the social problems caused by modern industrial methods. Our uneasy eclecticism he ascribes to the fact that "the mores of earlier cultures have been completely uprooted, and today we are living on fragments of the old and pieces of the new." That is the way he writes. Given a good bull session, the Mumfordinate appraisals drop away and Marshall can express himself in common, if not basic, English.

The essential soundness of his thinking, bolstered by his enthusiasm, makes him a good speaker and a persuasive teacher. The astounding thing about that course at Pratt was the way the boys ate it up. It started from the premise that "many of our existing building patterns have become obsolete, and their persistence today makes for a maladjustment of urban and industrial life." Obviously then, Marshall taught, to find correct patterns one must study man. Man not only in his present environ, but in his development—particularly his technological development. Hence the visit to the Natural History Museum. This was, to the students, an exciting concept; instead of a stodgy academic subject, architecture became something vital.

Marshall's course made his boys intellectually curious, and they formed a club and invited other people to talk to them in a basement restaurant. Meeting with them was almost furtive, yet all they wanted to hear was that architecture is related to human life. They were so ardent that they felt like conspirators, and they were just ordinary guys from Brooklyn. What he had done

was to teach them that modern architecture, in the age of modern machine production, was *exciting*. They got excited—about modern architecture and about Shaffer. Some of them are still working with him in Washington.

Marshall is vice-president of the Association of Federal Architects. His work as a government employee is a result of his belief that acceptance of contemporary design must come about largely through the work of the design bureaus in the government agencies. Good government work, well publicized, can wield a lot of influence, and the N.Y.A. publication, "Design and Standards," for which he was largely responsible, as well as the many published examples of his hospital standards for the Public Health Service, have done just that. Marshall points not only to his own work; a generous soul, he can hardly wait to call attention to the many government agencies where good architecture is being done. Visit him today in Washington and he will first show you, eagerly, how he and his staff are making Lanham Act hospitals look like something that belongs in this century, and then he will tell you, with equal glee, of the fine jobs Koch and De Mars are doing for the National Housing Agency, and how Sullivan and Delamar are doing some pretty advanced things for the Navy in the Bureau of Yards and Docks, even if they are just hung up on the wall. He will take you down to the Potomac and show you what a clean job the Federal Works Agency turned out in the barracks for government girls, and he will pull out of his file and compliment the standards turned out under Rosenfield in the Department of Hospitals in New York. "Those boys are throwing a lot of weight around," he says. Marshall is not puny.

Married and living on the outskirts of Washington, Marshall each evening stumbles over a kiddy car into a sensibly furnished, delightfully cool apartment. His attractive wife—who was in the State Department not so long ago—will whip up a tasty Southern meal for any guest who looks as though he would enjoy an evening of talk—preferably about modern architecture, though economics, politics, or the war will do. His year-old son is not yet completely articulate, but there is no doubt that his first complete sentence will be an exposition of the fact that design requires a generic rather than an eclectic expression.

Hospital architecture is a logical field for Shaffer to have chosen. His first contact with hospital design, in California made him feel that there was much room for improvement in the traditional plans. In the Public Health Service the advice of medical, administrative, and nursing specialists has been combined with open planning and an emphasis on light and air to produce "standards." These, Marshall insists, shall not be inflexible; he regards them as a starting point, and hopes to continue revising and improving them. He is as regular an attendant at sessions of the American Hospital Association, of which he is a member, as he is at meetings of the architectural societies.

He points to certain factors which govern hospital design: a strict necessity for economy because the normal cost of hospital construction is high; a need for sanitary, durable finishes; an unusual emphasis on adequate natural lighting and exposure; the necessity for economical plant operation; and a pattern of recognizable functions.

"This adds up," says Marshall, "to the basic principles of modern architecture." Q.E.D.

THOMAS H. CREIGHTON

Marshall Shaffer (right) discussing a problem with students

Photos by Rodney McCay Morgan

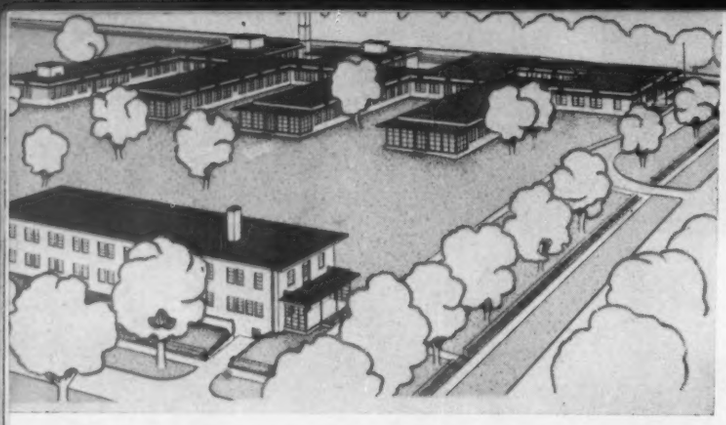
Suburban Hospital, Bethesda, Md.

Faulkner & Kingsbury, Architects

John W. Stenhouse, Associate

The architects had to run a veritable obstacle course of wartime limitations and restrictions in order to work out the design and construction of this 100-bed hospital, located in a suburb of overcrowded Washington, and built with Lanham Act funds. For one thing, no fire-resisting materials were available, and this led to the adoption of the one-story scheme. No lintels were forthcoming for brick openings; hence these were built with flat arches, either with relieving arches behind them or framed in wood. Fire walls and fire doors had to be provided to isolate the units into fire areas; lumber was available for short spans only, and the corridor partitions became bearing walls as a result. To save metal, windows have sash balances instead of weights. Stokers were "out"; so the boilers are hand fired. No copper and brass pipe; hospital equipment,

In collaboration with the Hospital Facilities Section, United States Public Health Service Marshall Shaffer, Chief Architect; and Emergency Operations Section, Public Building Administration, Federal Works Agency



Administration Building and Health Center

Suburban Hospital, Bethesda, Md.

difficult to obtain. That the finished group is as good as it is reflects much credit on the architects' ingenuity; the plan has many unusual features which we present in considerable detail. For these, the architects modestly tell us, "the U. S. Public Health Service was responsible."

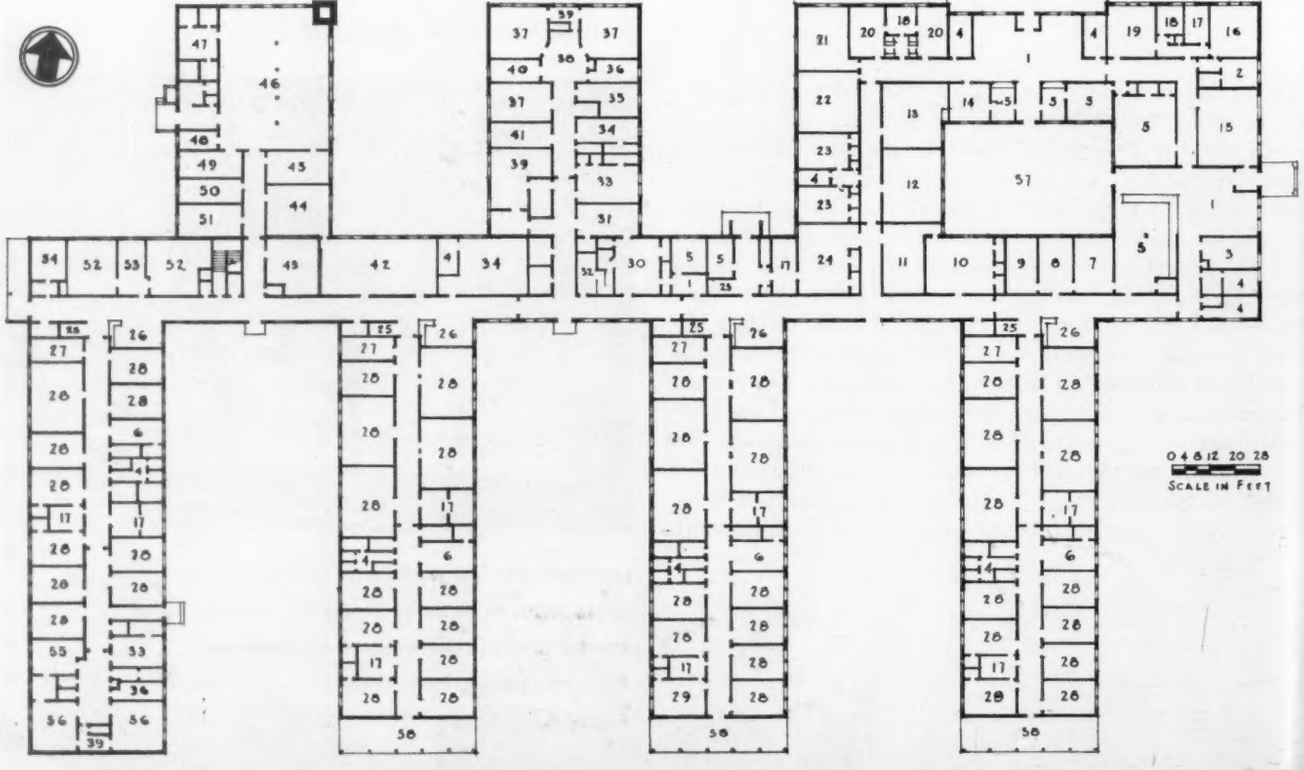
In addition to the special-use areas, which are detailed with separate plans and equipment keys, there are several relationships in the master plan that we should like to point out. See how the laboratory and pharmacy are located so that they are equally accessible to the hospital proper and the Outpatient Department. Note, too, that the X-ray, while organized as part of the operating suite, is close to the emergency group. The handling of the separate main entrances—one to the hospital, the other to the Health Center and Outpatient Department—is also noteworthy. Although they open onto different streets, their relation is such that they are essentially adjacent, and overlapping work is readily accommodated.

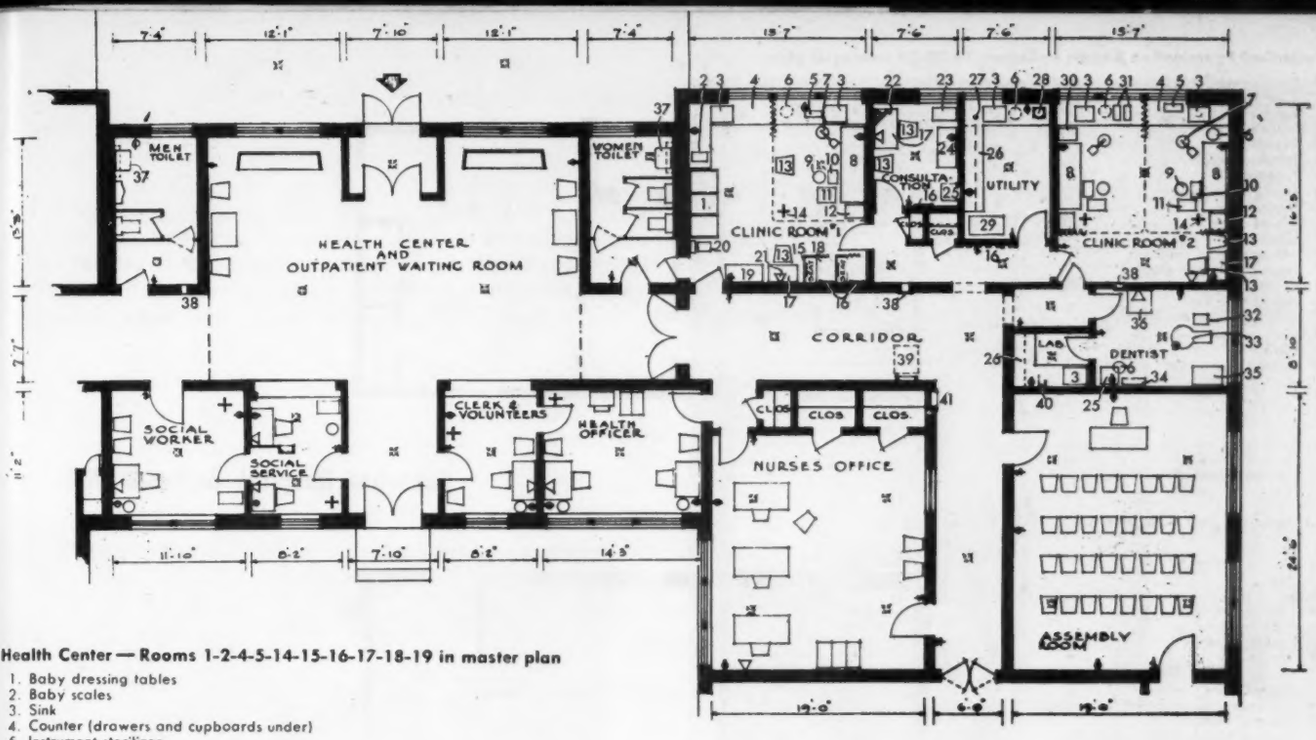
Structurally, the hospital is a masterpiece of compromise. An absolute minimum of metal is used—even to excluding sash weights. Exterior walls are 13-inch common brick, painted on the outside, and, above grade, damp-proofed, gritted and plastered on the interior. At basement level, the walls are parged and damp-proofed; the basement floor is concrete on gravel fill. Fire walls and the corridor bearing partitions are of brick or T.C. tile, plastered and equipped with metal-sheathed doors.

Wood joists support the main floor—wood rough, surfaced with linoleum or asphalt tile, except in operating and delivery rooms where conductive rubber flooring is used, and for the kitchen floor, which is finished with quarry tile. The roof is wood framed and sheathed and topped with tar and gravel. Sash are wood, double hung.

General Plan

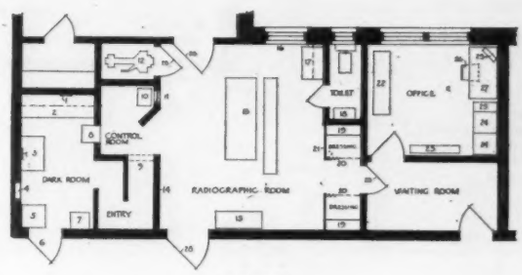
1. Waiting X-Ray
2. Dentist
3. Admittance
4. Toilets
5. Office X-Ray
6. Nurse Stations
7. Superintendent
8. Secretary
9. Director of Nurses
10. Doctors' Lounge
11. Medical Records
12. Laboratory
13. Pharmacy
14. Social Service
15. Assembly
16. Venereal and T. B. Clinic
17. Utility
18. Consultation
19. Maternal — Child Health
20. Examination
21. Treatment
22. Physical-therapy
23. Interne Bedroom
24. Emergency Room
25. Stretcher Alcove
26. Visitors' Alcove
27. Pantry
28. Bedroom Patients' Room
29. Nervous and Mental
30. Radiographic Room
31. Cast Room
32. Dark Room and X-Ray
33. Surgeons' Lockers
34. Nurses' Lockers
35. Surgical Laboratory
36. Clean-up, Surgery
37. Major Surgery
38. Scrub-up, Surgeons'
39. Sterilizer
40. Anaesthesia
41. Cystoscopy
42. Staff Dining
43. Cafeteria
44. Help Dining
45. Dish Washing
46. Kitchen
47. Preparation
48. Dietitian's Office
49. Special Diets
50. Formula Laboratory
51. Stores, Kitchen
52. Nursery
53. Nursery Examination
54. Suspect Nursery
55. Labor
56. Delivery
57. Court
58. Solarium





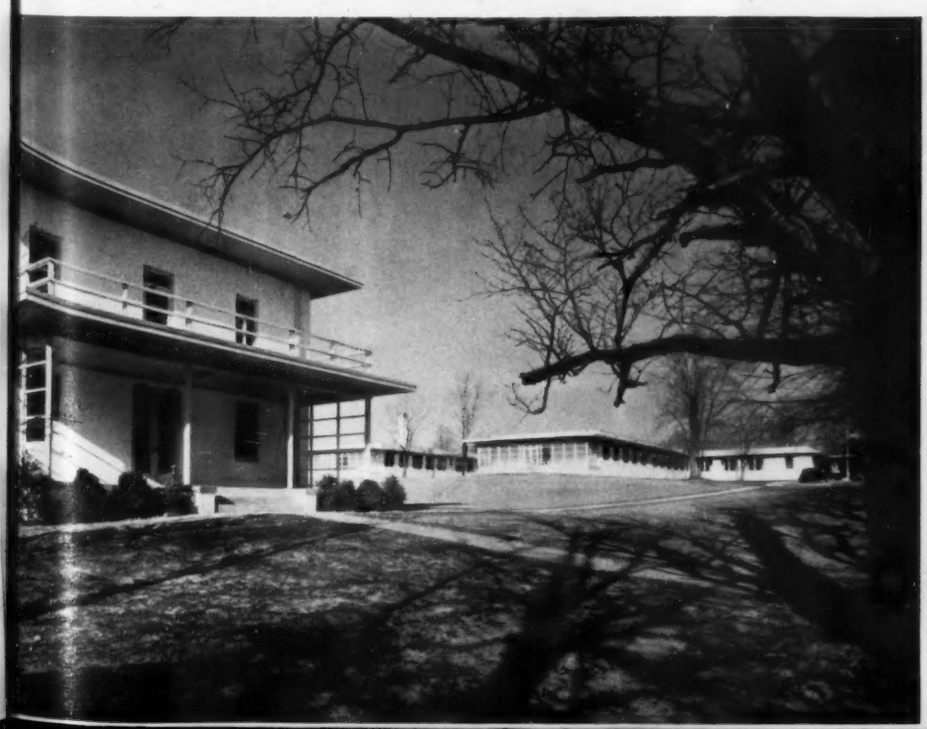
Health Center — Rooms 1-2-4-5-14-15-16-17-18-19 in master plan

1. Baby dressing tables
2. Baby scales
3. Sink
4. Counter (drawers and cupboards under)
5. Instrument sterilizer
6. Waste can
7. Lamp
8. Examination table
9. Stool
10. Footstool
11. Instrument table
12. Instrument cabinet
13. Chair
14. Costumer
15. Mirror
16. Hookstrip
17. Desk
18. Dressing booths
19. Demonstration table
20. Adult scales
21. Phone jack
22. X-Ray viewer
23. File cabinet
24. Baby examination table
25. Lavatory
26. Counter (cabinets over, cupboards under)
27. Bunsen burner
28. Hot plate (open under)
29. Pressure sterilizer
30. Pneumothorax
31. Microscopes
32. Dental unit
33. Dental chair
34. Instrument sterilizer on stand
35. Supply cabinet
36. Table
37. Lavatory — shelf and mirror over
38. Fire extinguisher cabinet
39. Ladder and access door to roof
40. Air and gas supply
41. Elec. panel



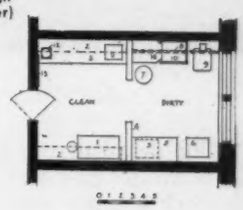
X-Ray Suites — Rooms 1-5-30-32 in master plan

1. Safe light
2. Loading bench (cabinet over)
3. Developing tank
4. In wall illumination
5. Dryer — vented through roof
6. Light-proof door
7. Sink
8. Pass box
9. Opening 6'-6" high
10. Control panel
11. View panel
12. Mobile X-Ray machine
13. X-Ray machine and table
14. Lead lining 7'-0" high
15. Cassette changer
16. Lightproof shade
17. Instrument and scrub sink (cabinet over)
18. Lavatory
19. Seat
20. Curtain rods
21. Wood partition
22. Stereoscope
23. View box
24. Film file
25. Letter file
26. Chair
27. Desk
28. 1/16" Sheet lead core



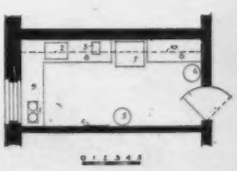
Typical Utility Room — Room 17 in master plan

1. Dressing cart
2. Wall cabinets
3. Ice bin under
4. Frame partition 4'-7" high
5. Counter (cupboards under)
6. Utensil sterilizer
7. Laundry hamper
8. Shelf and rod
9. Clinic sink
10. Laundry tray
11. Sink
12. Hot plate
13. Bulletin board
14. Drainboard



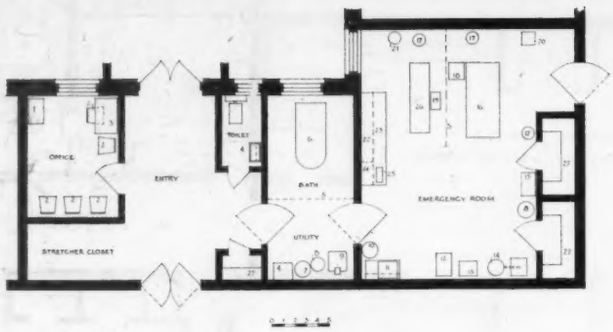
Typical Floor Pantry — Room 27 in master plan

1. Hot plate
2. Sink
3. Toaster
4. Bulletin board
5. Linen hamper
6. Garbage can
7. Refrigerator
8. Counter (cupboards under)
9. Counter (open under)
10. Wall cabinets



Outpatient Examination Rooms — Rooms 18-20-21 in master plan

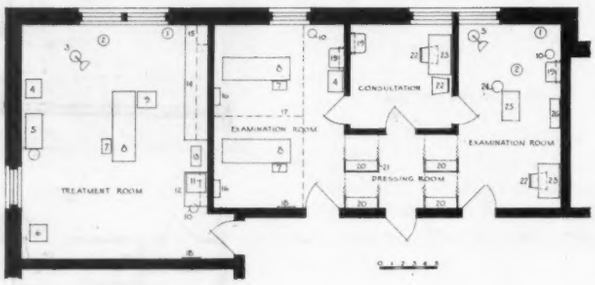
1. Kick bucket
2. Operator's stool
3. Lamp
4. Instrument table
5. Dressing cart
6. Treatment chair
7. Footstool
8. Examination table
9. Mayo table
10. Waste can
11. Glass shelf
12. Instrument and scrub sink
13. Electric instrument sterilizer
14. Counter (cupboards under and cabinets over)
15. Narcotics locker
16. Shelf (5'-0" above floor)
17. Curtain rods, 7'-3" high
18. Hook strip
19. Lavatory (glass shelf over)
20. Seat
21. Wood partition
22. Chair
23. Desk
24. Cuspidor stand
25. Specialist chair
26. Treatment cabinet



Suburban Hospital, Bethesda, Md.

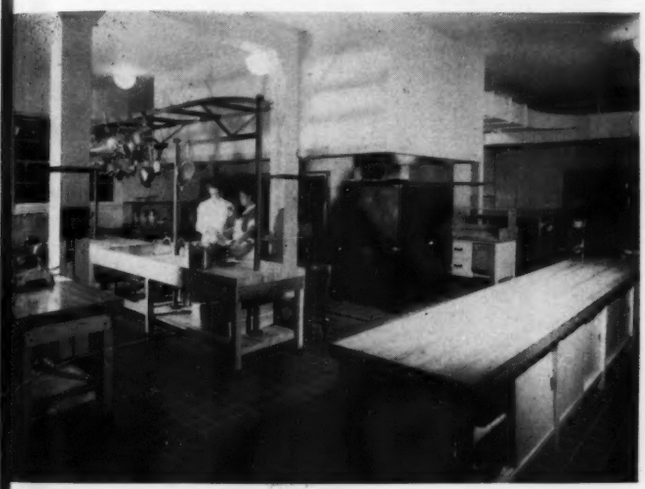
Emergency Suite — Rooms 5-17-24-25 in master plan

1. File
2. Chair
3. Desk
4. Lavatory
5. Curtain rod
6. Receiving bath
7. Laundry hamper
8. Waste can
9. Clinic sink
10. Alcohol dispenser
11. Instrument and scrub sink (glass shelf)
12. Pressure sterilizer
13. Mayo table
14. Portable light
15. Instrument table
16. Bed
17. Operator's stool
18. Bed stand
19. Footstool
20. Resuscitation apparatus
21. Kick bucket
22. Wall cabinets
23. Counter (cupboards under)
24. Narcotics emergency locker
25. Instrument sterilizer
26. Operating table
27. Shelves



The detail of the roof is somewhat unusual. "In order to avoid brick arches," the architects report, "the brickwork reaches only to the heads of the windows. Construction is wood above this point, marked by an overhang—a projection of the ceiling joists—which varies in depth depending on the orientation."

Interior walls of operating, delivery, bath, toilet, utility rooms, etc., have tile wainscots. Ceilings are of gypsum lath, plastered and insulated with 4-inch wool-type material, except in such areas as corridors, nurseries, labor rooms, kitchen, etc., where acoustic tile is used.

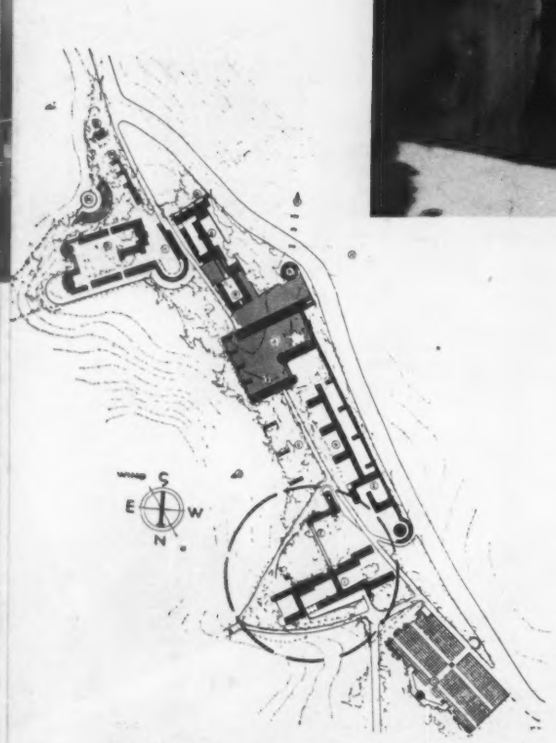


Kitchen

Visitors' alcove

Typical patients' room

Nursery



University Medical Center

Jerusalem

Eric Mendelsohn, A. I. A., Architect

The Center, the first completed unit of the Hebrew University, comprises about one third of the total scheme.

The site of the present Medical Center and the future University development is on a ridge of Mount Scopus, approximately 150 feet above the town. Extremes of temperature—excessive heat in summer and biting cold in winter—form the climatic pattern of the region. A basic consideration in the design of buildings, therefore, was some scheme to avoid the northeasterly winter winds, yet catch the sun and, in summer, to invite the cooling west winds while excluding the hot solar rays.

In the Medical Center group, this has been worked out by placing the major axis of the group approximately in a west-to-east direction and by developing the units around courtyards.

As to the surface or esthetic design of the buildings, one British critic has commented: "Mendelsohn's triumph is that he has designed monumental buildings, incorporating all the up-to-date European building techniques, yet which are native in spirit at the same time." Window areas on the south are kept to a minimum consistent with adequate light, except in those areas where patients need the sun for its health-giving properties; here windows are grouped. The photo at the top of this page clearly demonstrates each aspect.

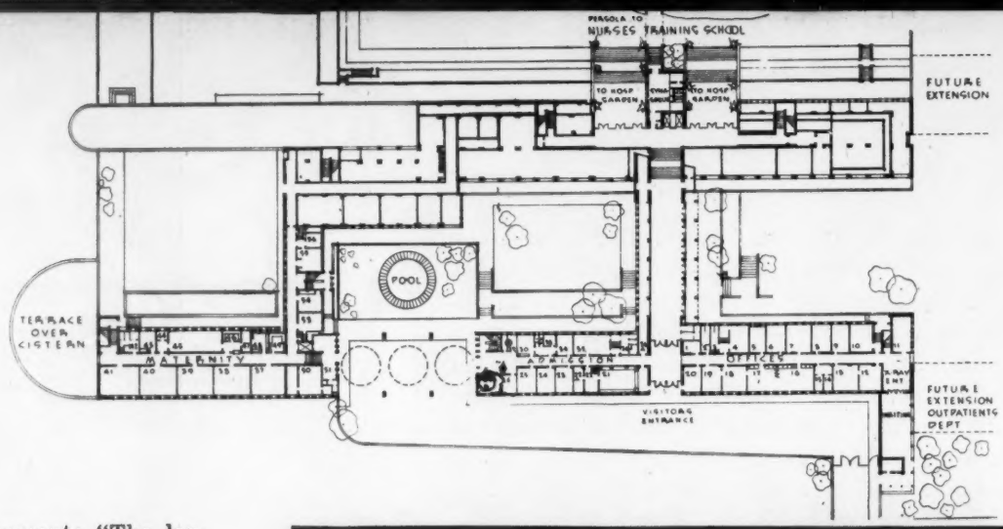
Structurally, the buildings are of reinforced concrete, provided with extra reinforcing and expansion joints to accommodate earthquake stresses. Insulation and weather protection is furthered by the use of cavity-wall construction, with interior walls of pumice stone or brick. Exterior surfacing is of machine-cut stone slabs. The latter were selected in preference to hand-cut stone to insure speedy deliveries. Placement of the stones just as they came from the gang saw produced a rich pattern of varying tones and textures.

Funds for the Medical Center were contributed by numerous individuals and institutions headed by Hadassah of America.

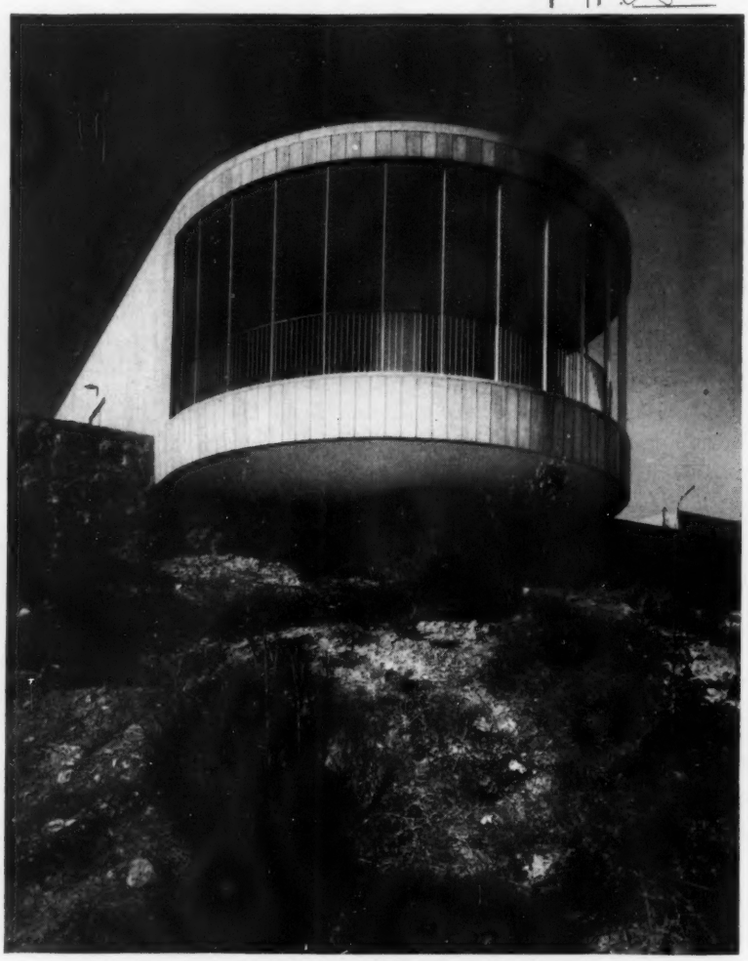
Large window areas are restricted to special sun rooms (above) or use in such public spaces as the visitors' entrance gallery (below) which is flanked by courtyards.

Ground Floor

0. Gatekeeper
1-15. Offices
16. Board Room and Director's Office
21-22A. Pharmacy
23-36. Admission
36A. Patients' and Staff Corridor
37-69. Maternity
50. Circumcision



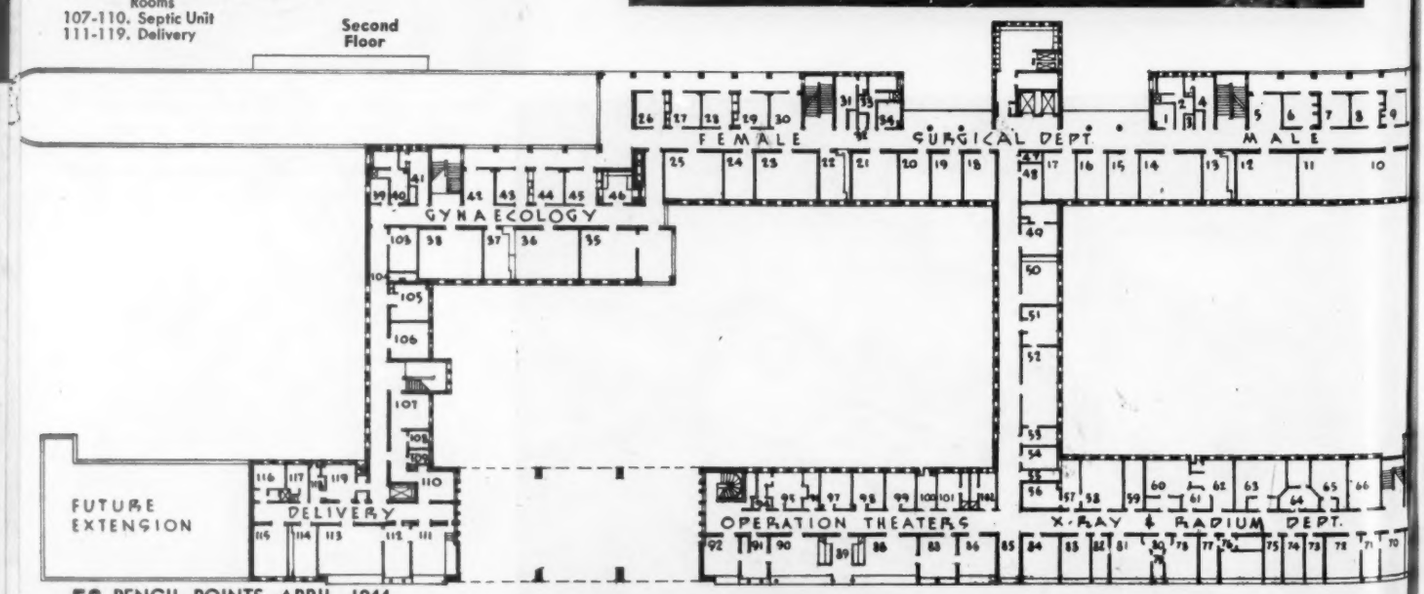
The architect's own comment: "The layout and architecture of the buildings are bound to disappoint the layman who expects either England's domestic and baronial splendor or America's ambitious and imposing verticals. But no one will be disappointed who regards it in the light of the monumental austerity and serenity of the great spiritual creations of this part of the world—the Bible, the New Testament, and the Koran. And no one—of my colleagues—should compare University buildings with the architectural exuberances of a commercial center. For commerce requires change and advertisement, while a University lives on continuously and is built for the ages."



The hospital chapel, located at the far eastern end of the lower ground floor (not shown) overlooks the Judean desert.

0-000. Tea Kitchen
1-3. Patients' Accommodations
4. Utility Room
5. Day Room
6-17. Male Surgical Department
18-34. Female Surgical Department
35-46. Gynecology
47-51. Surgical and Ophthalmological Examination Rooms
52-56. Physical Therapy
57-84. X-Ray Department and Radium Institute
85. Students
86-92. Operating Theaters and Sterilization
93-102. Work and Preparation Rooms and Operating Theaters
103-106. Gynecological Examination Rooms
107-110. Septic Unit
111-119. Delivery

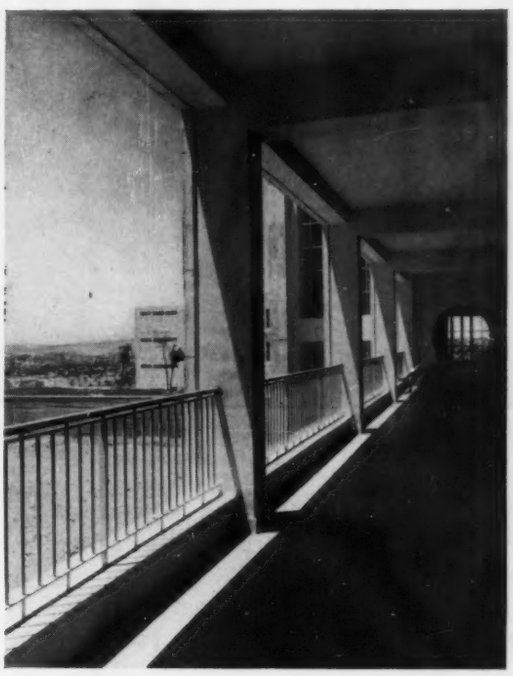
Second Floor



Eric Mendelsohn, A. I. A., Architect

Reinforced concrete construction evolves naturally to form both the finished structure and its expressive surface treatment.

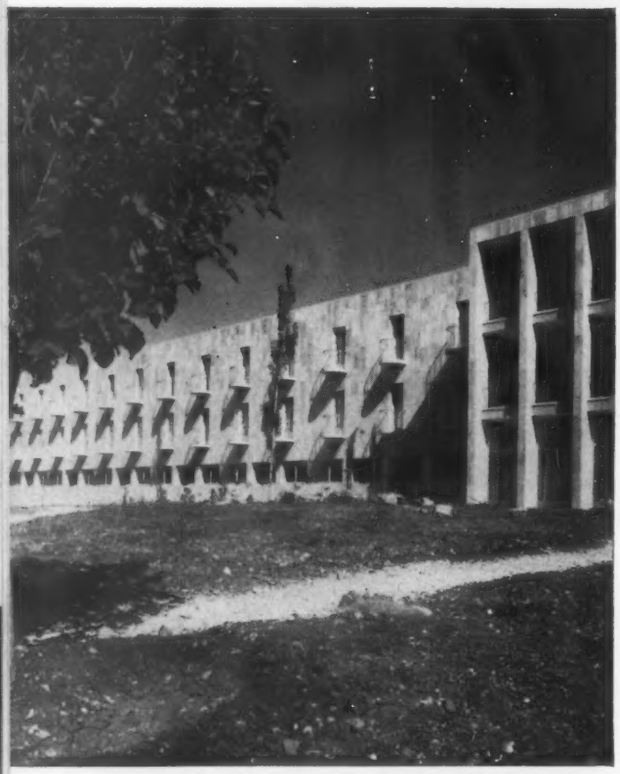
Balconies for the patients are contrived for outdoor recuperation without direct sun.



A wall of the main kitchen

Eric Mendelsohn, A. I. A., Architect
School of Nursing

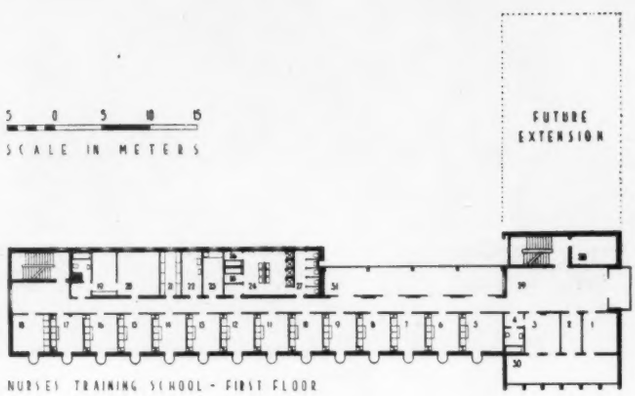
One of the upper terraces

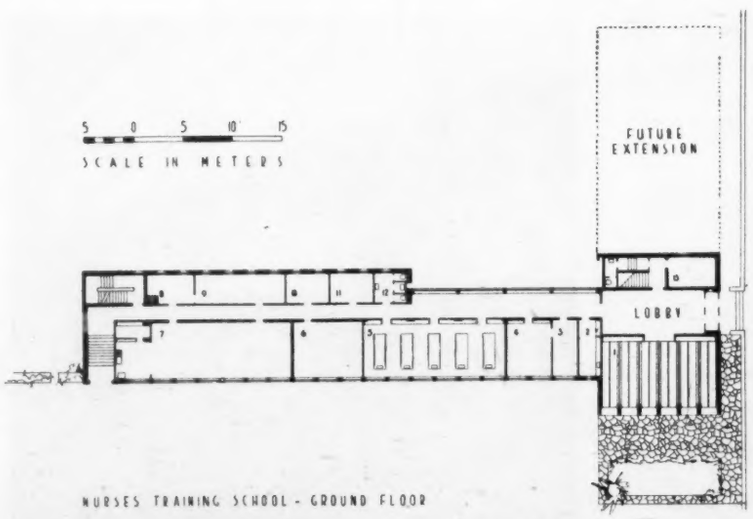


Reception Room

Behind the main block of the hospital and connected to it by a covered walk (see cover picture) is the nursing school, with reception room and school facilities on the ground floor and living quarters on the two upper floors.

The deep gallery terraces provide outdoor sitting space where there is always an area shielded from the direct rays of the sun. The structural system is the same as that used for the hospital proper.



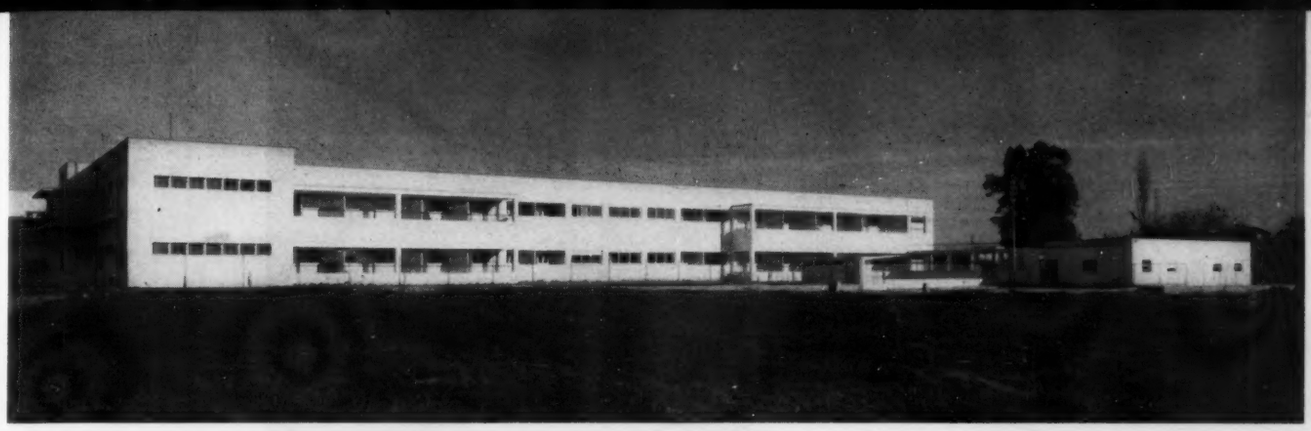


First Floor

1-4.	Infirmary
5-18.	Nurses' Living Quarters
19-20	Assistant Matron
21.	Linen Store
22.	Laundry
23.	Tea Kitchen
24-27.	Nurses' Accommodations
28.	Maid
29.	Lounge
30-31.	Terraces

Ground Floor

1.	Reception Room
2.	Tea Kitchen
3-4.	Matron's Office
5.	Laboratory
6.	Lecture Room
7	Demonstration Ward
8-9.	Library Store and Library
10-12.	Stores and Lavatories
13	Gatekeeper



Assutah Private Hospital

Tel Aviv, Palestine

Joseph Neufeld, A. I. A., Architect

Built to serve the rapidly expanding northern portion of Tel Aviv, this 120-bed hospital was privately financed by some 30 members of the medical profession. A co-operative venture, it early enlisted the support of local labor groups and, when completed (See Fig. 15 in plan), will include complete out-patient services. Other expansion is expected in the addition of a third floor throughout the group.

The climate is a fundamental design factor in planning a structure for this region; unusual consideration must be given to cross ventilation and provision of good light, shielded from excessive sun. The sectional drawing shows the structural method employed in obtaining cross ventilation for rooms that border a corridor. A slit above first-floor ceilings and a setback at roof level provides clerestory windows above the corridor height. The spacious landscaped gardens are quite as much a ventilating device as they are a pleasant amenity for the enjoyment of patients.

Four major units comprise the group; the main block on a north-south axis, with general hospital services on the ground floor and a maternity floor above; an administrative and entrance building, organized with a flower shop around a court quite apart from the hospital proper; an isolation or "clearing station" building in the southeast corner, where suspect communicable diseases are temporarily housed, and a service and post mortem unit, located in the northeast corner, with street and driveway

The depth of balconies restricts the intense sun

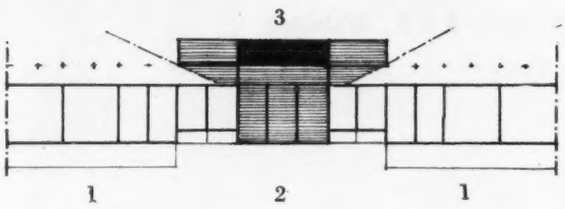
entrance entirely divorced from the ears and eyes of the hospital patients.

A notable plan feature is the organization of service facilities at the center of the hospital block (see diagram). Facing these are nurses' station and work rooms. At either side of the latter, air and light conditions progressively improve as the building wings extend, and this is reflected in the placement of private rooms, two- and four-bedroom units.

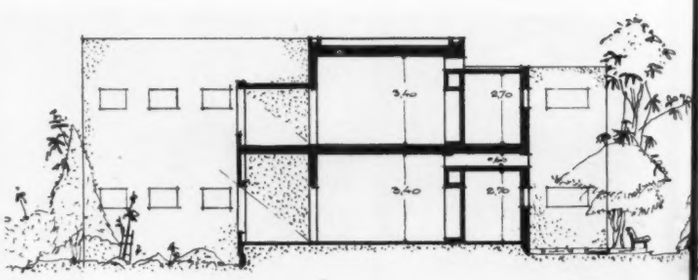
Another feature of the four-bed wards is that there is sufficient depth so that the beds may be pushed apart to go against the corridor and balcony walls, gaining enough space for a third bed between them, forming 6- instead of 4-bed rooms.

Construction is of reinforced concrete, with walls of pumice brick treated with a weather-resistant coat and stuccoed. Floors are ribbed, thin-section concrete slabs. Interior surfaces are plastered, with easily cleaned, rounded corners. Floor surfaces are linoleum.

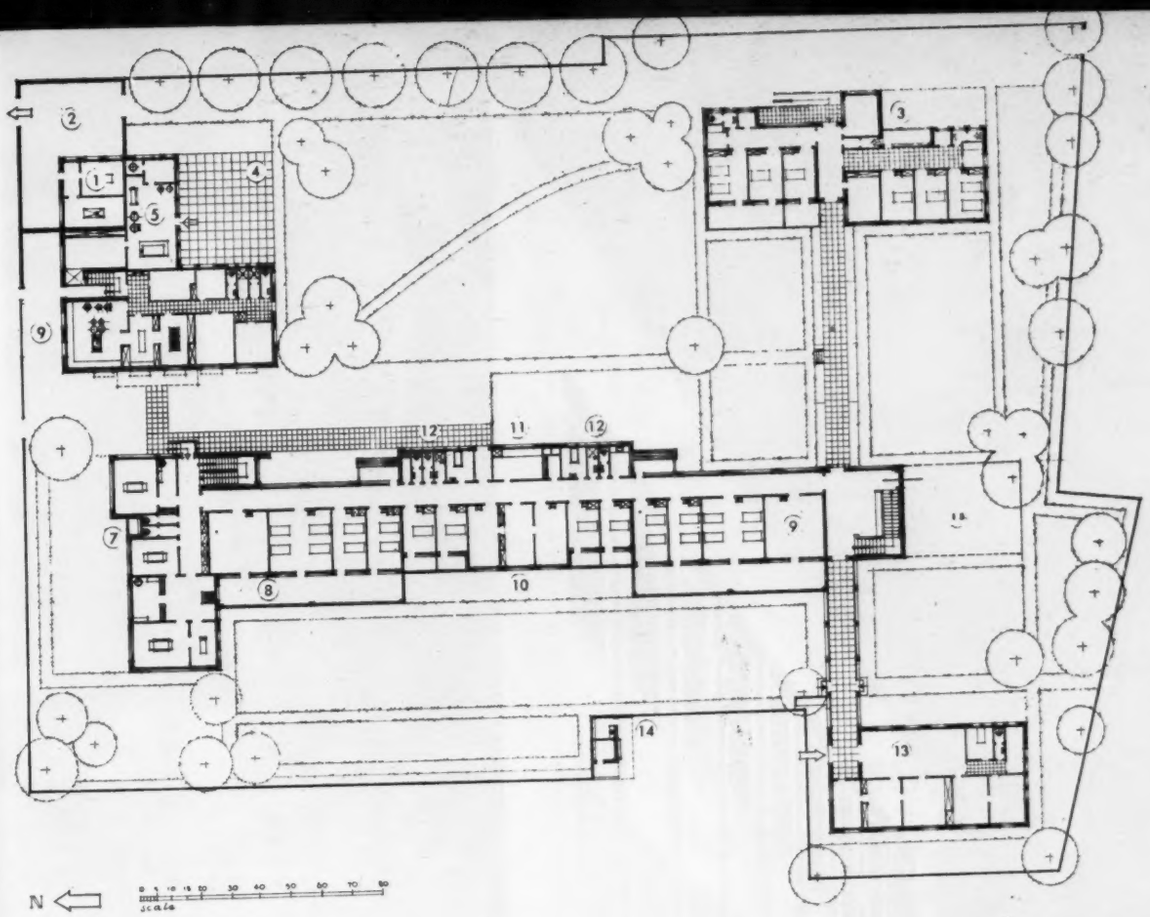
Considerations of cleanliness and cheerfulness dictated use of a warm, gray-white paint on all interior wall surfaces. The wood sash are a combined double-hung and pivot type. When raised, the lower sash locks with a central pivot or axle, and the pair of sash may then be tilted inward from the pivot to provide nearly 100 per cent opening.



1. Bed area: cross-ventilated, sun-protected, unobstructed from east to west.
2. Concentrated medical, sanitary, and nursing facilities: centralized supervision; short distances; close contact with patients; dividing unit between male and female wings.
3. The floor pantry, source of noise and odors; apart from patients' rooms.

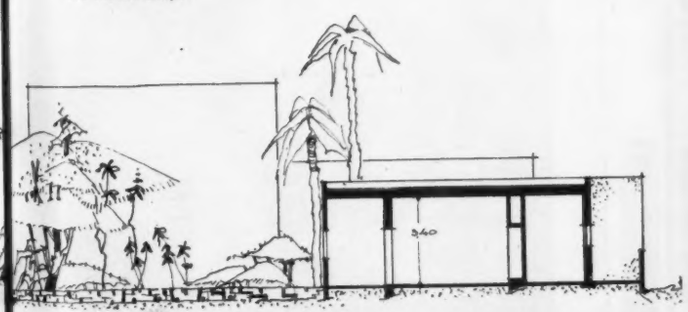


The Flower Shop



N

1. Post Mortem
2. Court
3. Isolation
4. Laundry Court
5. Laundry
6. Kitchen Wing
7. Surgical and Nursery Wing
8. Open Terrace
9. Day Room
10. Nursing, Sanitary, and Medical Facilities (rooms and wards at either side)
11. Tea Kitchen
12. Wash Rooms, Toilets
13. Administration Building
14. Flower Shop.



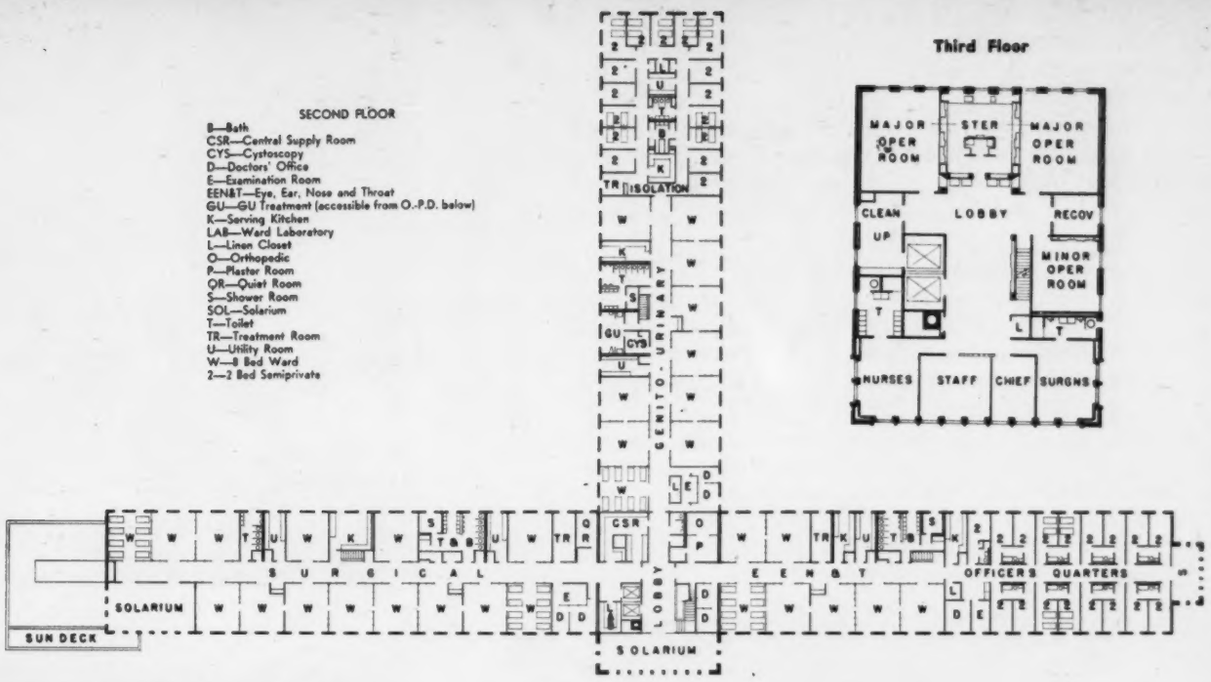
Stair hall

Joseph Neufeld, A. I. A., Architect

Looking from sterilizer room through pass-window instrument case to the operating room

SECOND FLOOR

B—Bath
CSR—Central Supply Room
CYS—Cystoscopy
D—Doctors' Office
E—Examination Room
EENT—Eye, Ear, Nose and Throat
GU—GU Treatment (accessible from O.-P.D. below)
K—Serving Kitchen
LAB—Ward Laboratory
L—Linen Closet
O—Orthopedic
P—Plaster Room
QR—Quiet Room
S—Shower Room
SOL—Solarium
T—Toilet
TR—Treatment Room
U—Utility Room
W—8 Bed Ward
2—2 Bed Semiprivate



Third Floor

Solarium

Photos by P. A. Dearborn

U. S. Public Health Service Hospital

Sheepshead Bay, N. Y.

Alfred Hopkins & Associates, Architects

This hospital was built under the supervision of the U. S. Coast Guard, to serve the medical needs of service men in two adjacent training centers. A 400-bed hospital, it cares for acute ailments and handles the out-patient or "sick call" requirements of 18,000 men.

Facing south on a paved promenade along the waterfront where ambulant and wheel chair patients can enjoy the ocean sun, it is planned to take full adantage of the prevailing southeast and northwest winds.

Speed was a primary consideration; only seven months elapsed between the beginning of conferences in April 1942 and the occupancy of the building by patients.

An 8-bed, Rigs-type of ward is the standard unit, with a segregated isolation section for all suspects and communicable disease cases at the end of the north wing

FIRST FLOOR

ADM—Administration Office
B—Bath
BR—Bread Room
C—Can Washing
CHIR—Chiropody
CS—Commissary Steward
CPO—Ch. Pharmacists Mates' Mess
D—Doctors' Office
Dt—Dietitian's Office
DETN—Detention Rooms
DK—Diets Kitchen
DS—Day Stores
DR—X-Ray Darkroom
E—Examination Room
EM—Emergency Room
EO—Executive Officer
FL—Fluoroscopy
GEN DRESS—General Dressings O.-P.D.
G—Garbage Refrigerator
HL—Galley Help's Lockers
I—Information and Switchboard
INC—Waste Incinerator
ISOL—Isolation Mess
K—Serving Kitchen
LIN—Linen Stores
M—Mortuary
MD—Medical Director
MED OFF—Medical Officers' Lounge
MO Mess—Medical Officers' Mess
MS—Minor Surgery
O—Office
PCL—Patients' Clothes Locker
PATIENTS CFT—Ambulant Patients' Cafeteria
PH MTS CFT—Pharmacists Mates' Cafeteria
P & M—Physical-electro-hydro-therapy
PHAR—Pharmacy
PH ST—Pharmacy Stores
P LAB—Pathologist's Office and General Laboratory
QR—Quiet Room
R—Nurses' Rest Room
SE—Serology Laboratory
S—Shower
SL—Sterilizing Soiled Linen
T—Toilet
U—Utility Room
VIS—Visitors' Waiting Room
V—Vegetable Refrigerator
W—8 Bed Ward
XR—Radiology

on the second floor. On the second floor corridor, ceilings are raised to form a clerestory of glass block panels and vent openings.

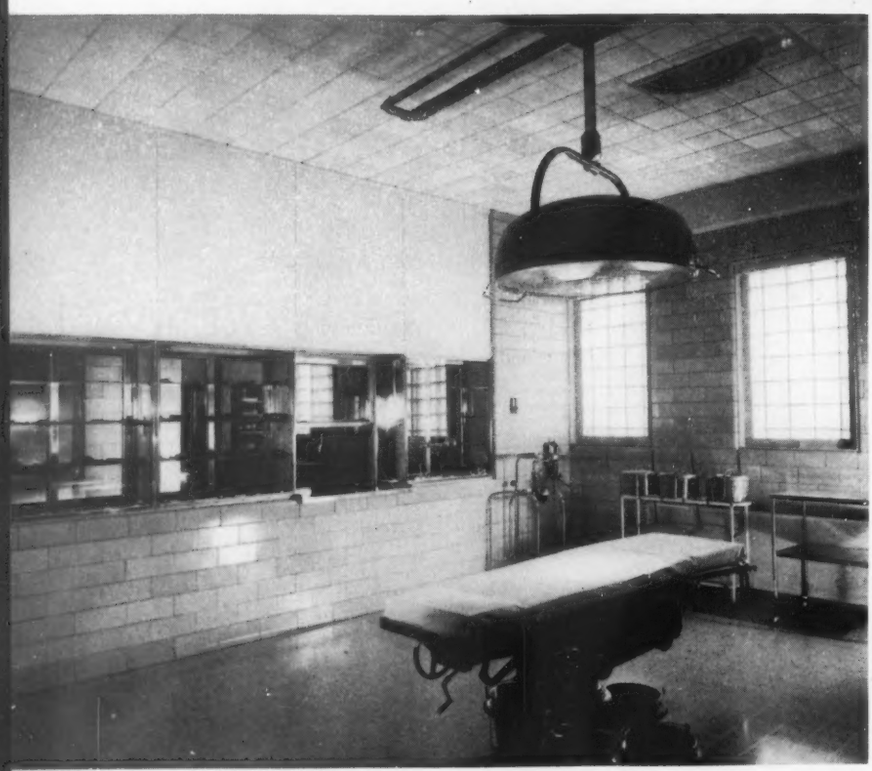
A group of semi-private rooms for officers is provided at the end of the east wing on the second floor. Solariums looking out over the sea serve all categories. There is no basement, as the building is constructed on sand, with high tide only 5 feet below the grade.

The structural frame consists of reinforced concrete columns, floor, and roof slabs, using a two-way floor arch system. Bays were determined by a standard ward unit and not varied throughout the plan.

Concrete block was used in an exterior double wall, with a 2-in. air space (see details).

The interior finish is simply painted smooth concrete blocks. Similar block is used for all interior partitions except in "wet" rooms and spaces that must be scrubbed, where salt-glazed block is used. Concrete beams and columns are left exposed and painted. Stairs are cast

A typical, open Rigs-type ward. For details, see Page 67.



Two major operating rooms are located on the third floor. Drawings on Page 66 show details of wall and instrument-case pass window.

A glass block wall on the operating floor separates the staff office from the lobby.

concrete, with concrete balustrades, and wood handrails. A different color scheme is used for each wing, with flat tones employed. The floor finish is generally asphalt tile applied directly to concrete slab. Exceptions are wet spaces, where ceramic tile is used; operating suite, where there is terrazzo, with grounded grid; and galley spaces, which have quarry tile.

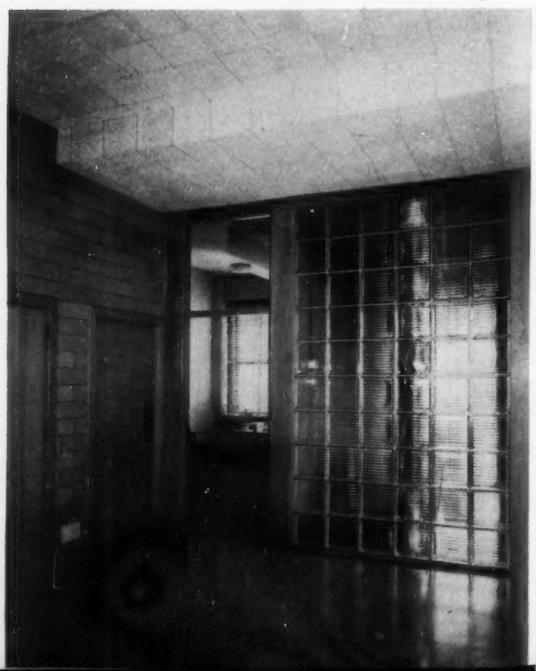
Corridors, wards, offices, and treatment rooms have fiber acoustic tile units fastened directly to underside of slab.

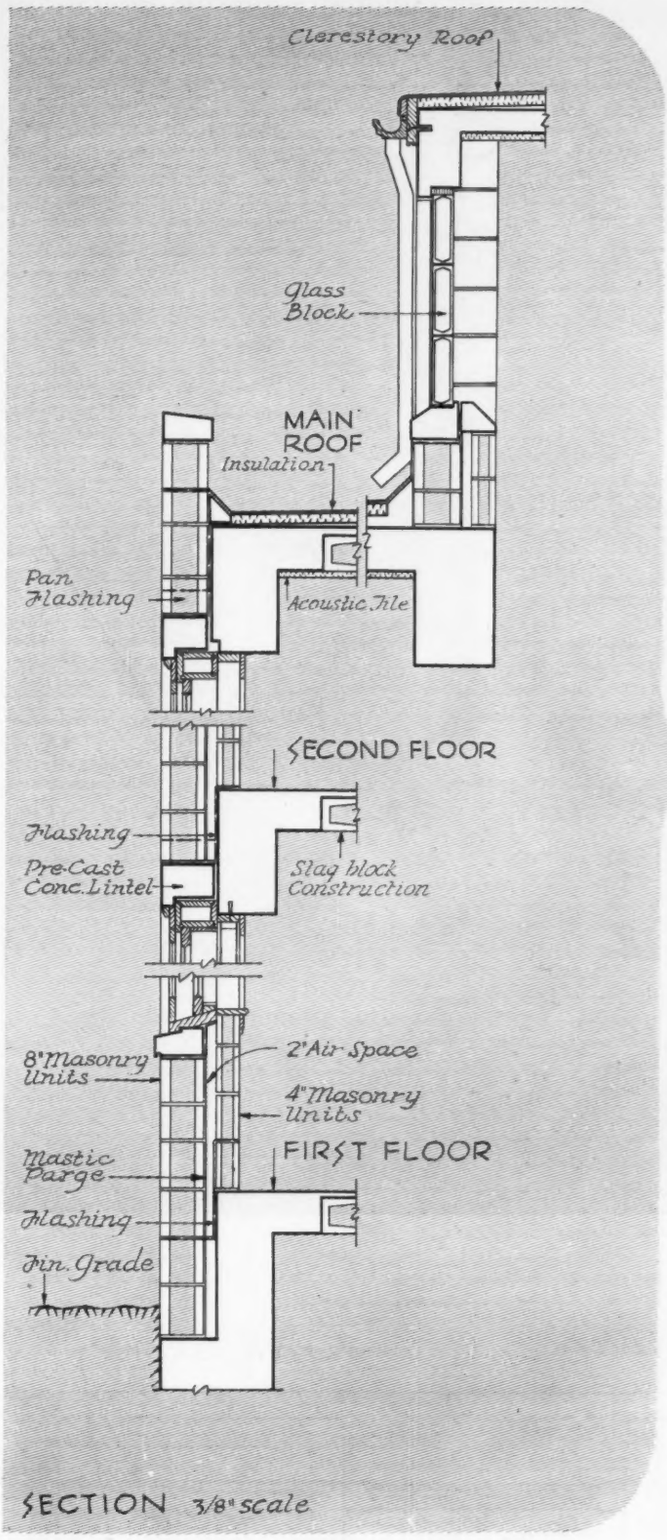
Heating is generally a two-pipe vacuum system with radiators as heating units. Mechanical ventilation is provided in galley spaces and operating rooms.

The hospital is wired especially for blackout purposes. All essential services, including operating suite, utility rooms, elevator, nurses' call, doctors' call, and bedside units, can be maintained during a blackout, while all general lighting is shut off at the main switch.

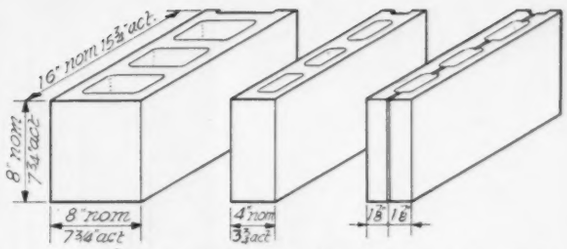
The cost, excluding land, but including all fixed and loose equipment was $1,176,000. Cost per cubic foot, building alone, 70 cents. Cost per bed, $2,100.

—by GANNETT HERWIG



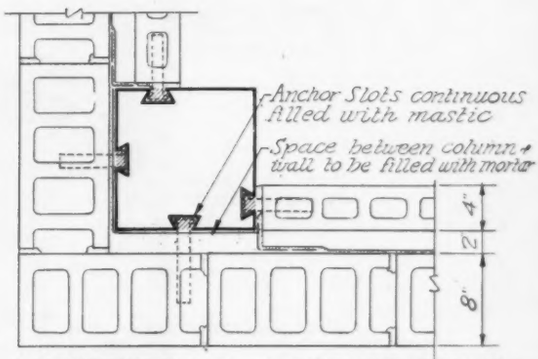


SECTION 3/8" scale

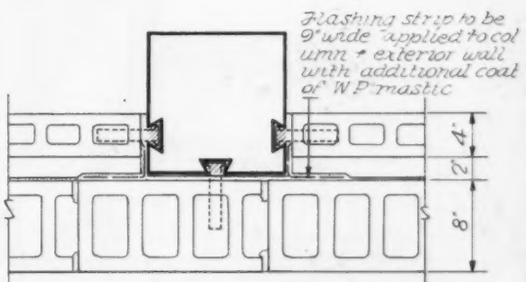


STANDARD UNITS of CONCRETE BLOCKS

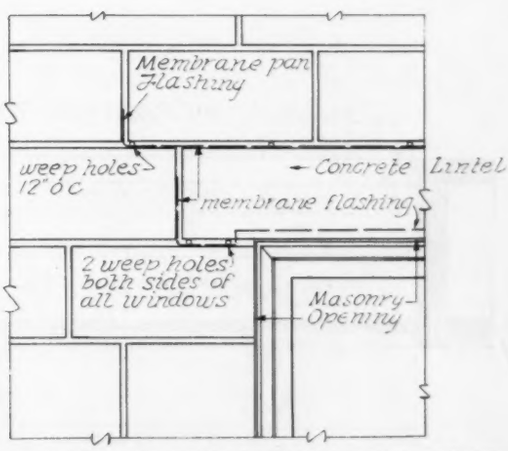
4" Interior block 18" nom 17⅜" act



WATERPROOFING at CORNER COLUMN and END WALL



CONDITION at INTERMEDIATE COLUMN

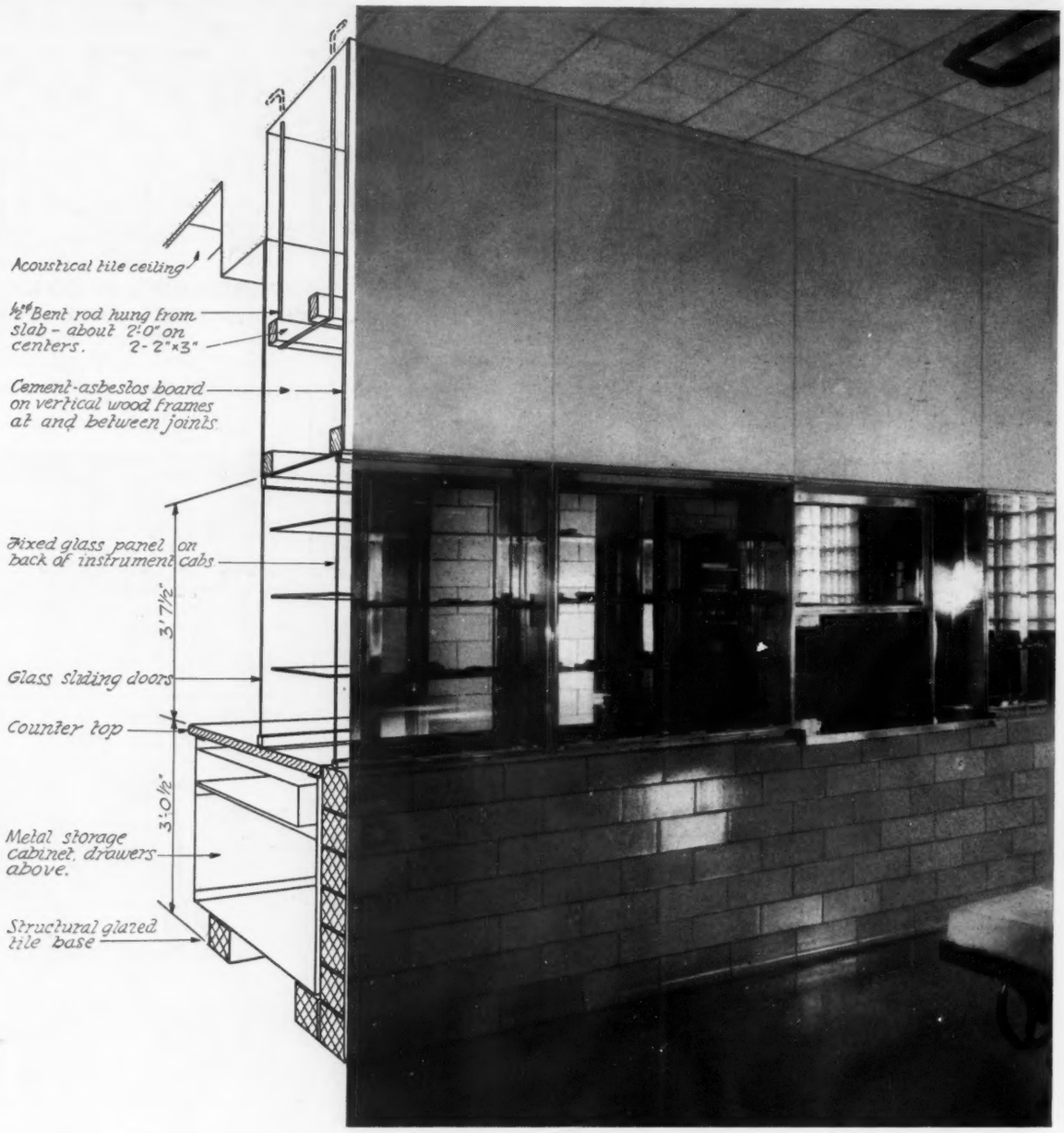


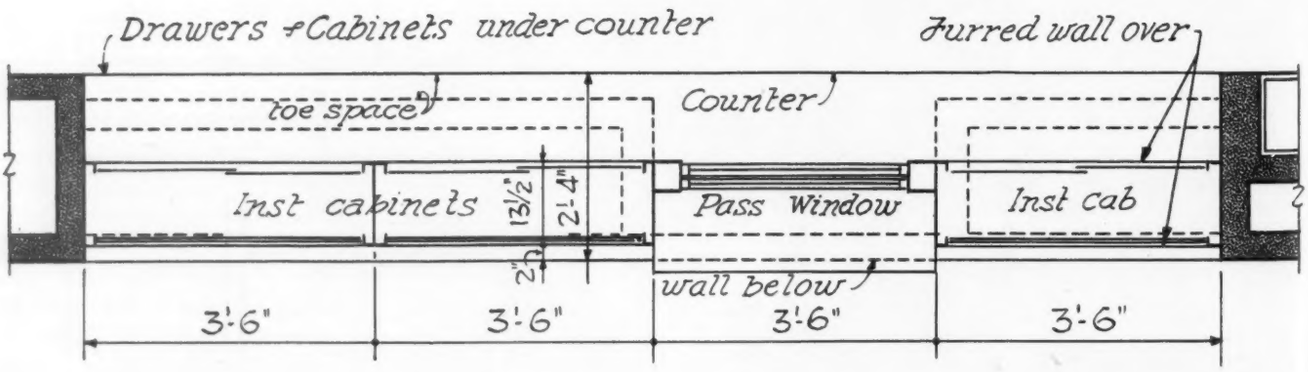
ELEVATION, TYPICAL WINDOW HEAD

3/4" scale

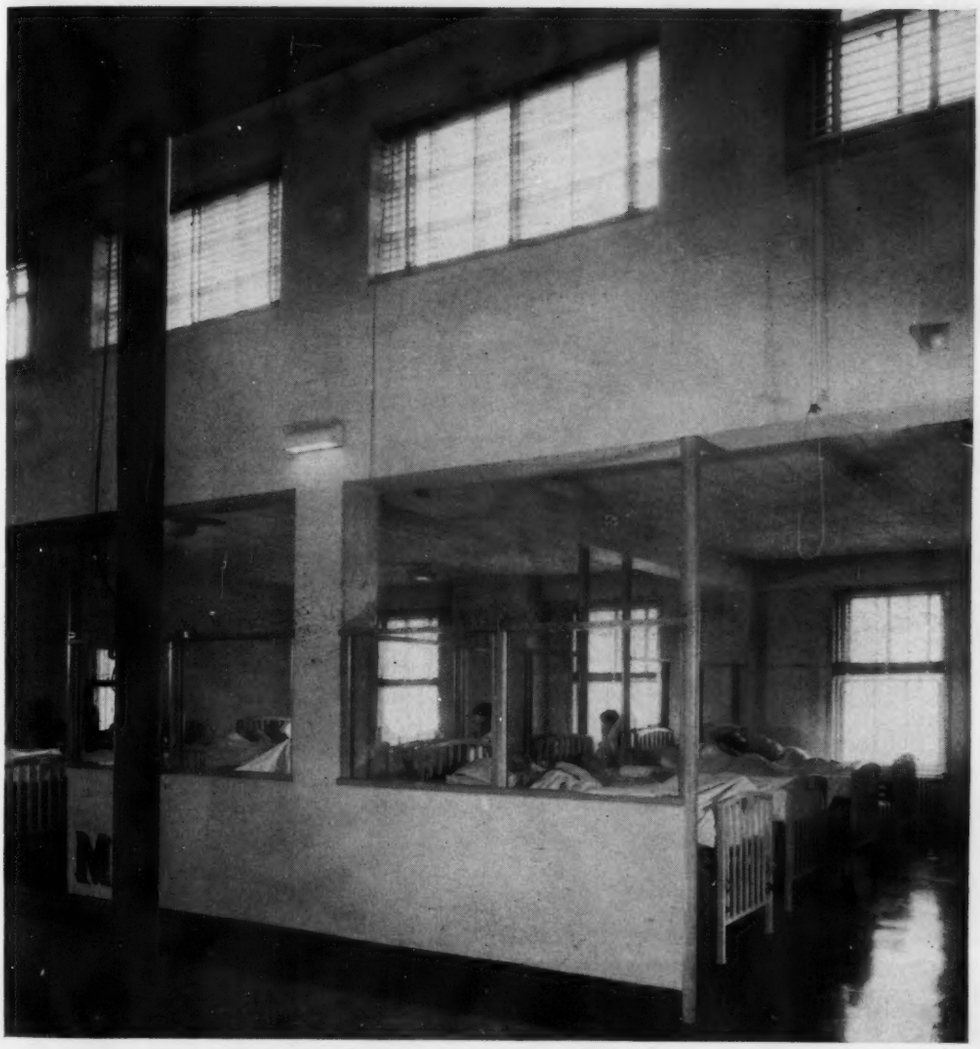
For the U. S. Public Health Service Hospital, the architects worked out a system of emergency, wartime, fireproof construction: reinforced concrete skeleton, floor and roof slabs; use of a single material (precast concrete) for exterior walls, interior furring and partitions, involving services of but one trade—masons. Extensive use of glass block, for monitor glazing as well as for partition panels, eliminated metal; special provisions for waterproofing (paper, membrane, and parging). Advance modular planning avoided all cutting of masonry units.

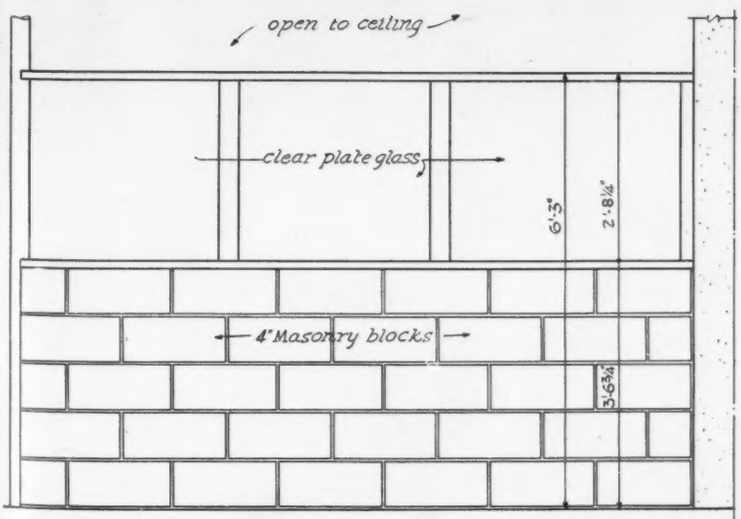
Instrument Cabinet-Pass Window Between Sterilizing and Operating Rooms; U. S. P. H. S. Hosp., N.Y.; A. Hopkins & Assoc., Archs.


Acoustical tile ceiling
½" Bent rod hung from slab - about 2'-0" on centers. 2-2"×3"
Cement-asbestos board on vertical wood frames at and between joints
Fixed glass panel on back of instrument cabs
3'-7½"
Glass sliding doors
Counter top
3'-0½"
Metal storage cabinet, drawers above.
Structural glazed tile base

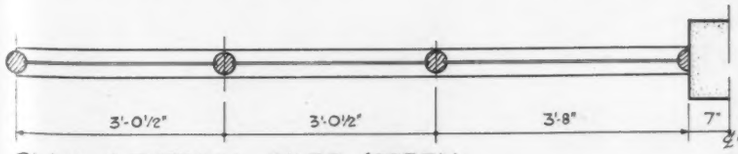


PLAN at CABINETS between STERILIZING & OPERATING ROOMS
½" Scale

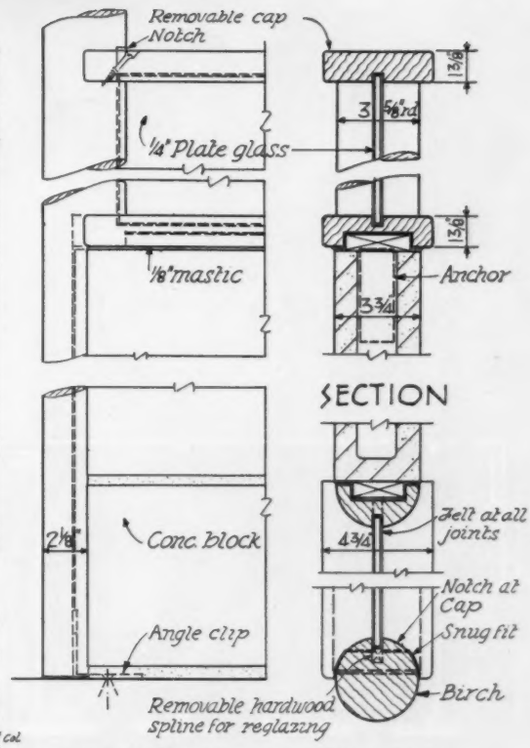




½ ELEVATION from WARD



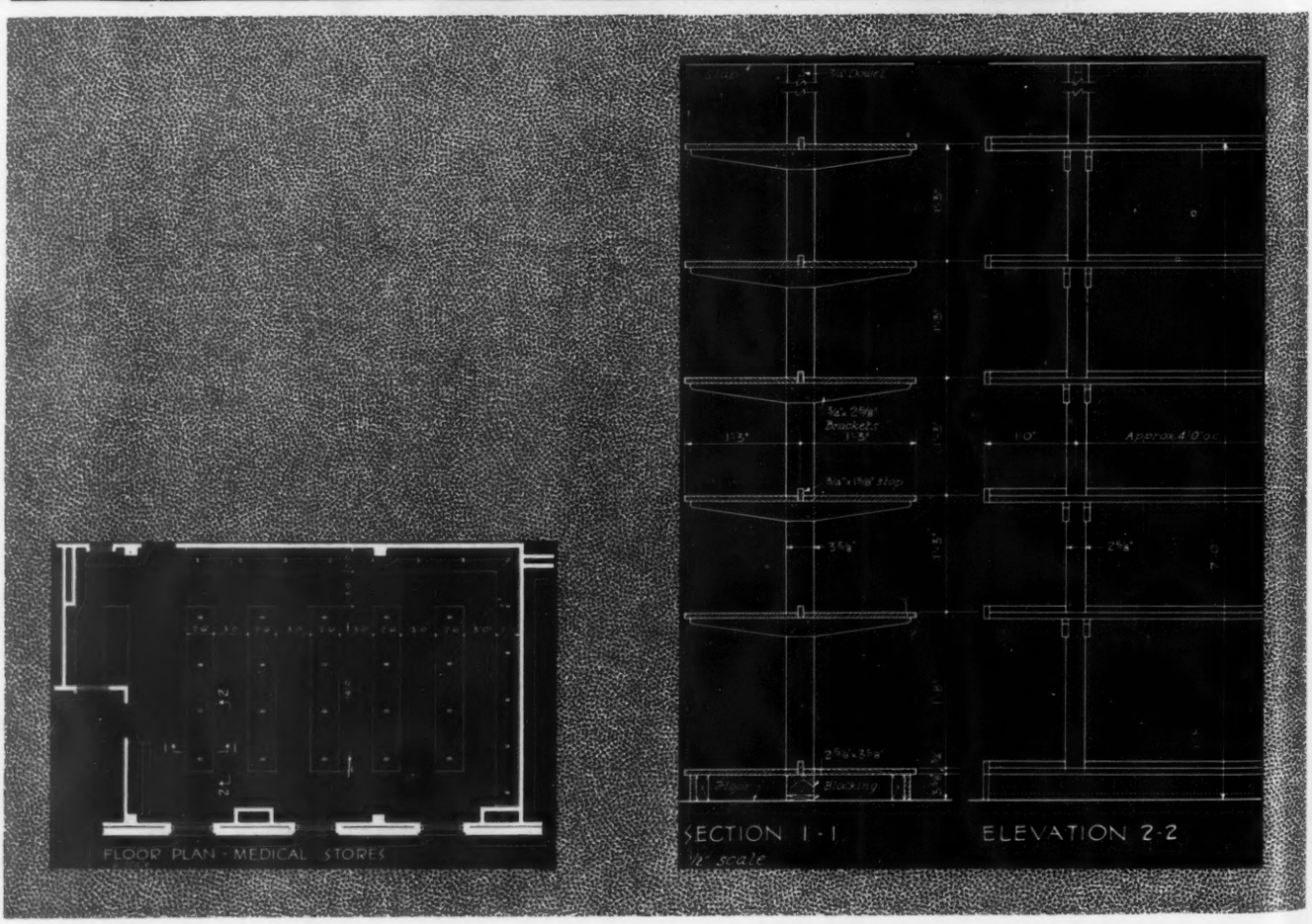
PLAN of TYPICAL WARD SCREEN
3/8" scale

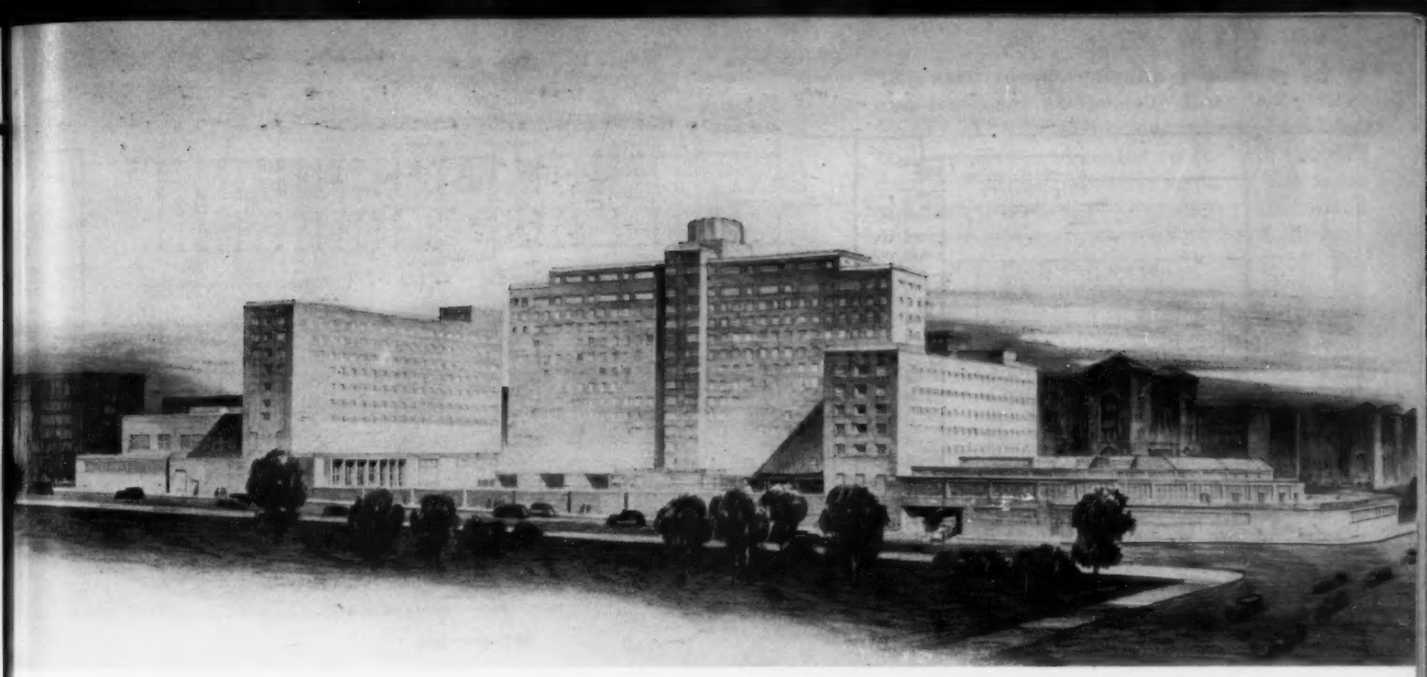


ELEVATION PLAN
1½" scale

Selected Details . . .

Wood Storage Shelving Designed to Eliminate Steel; U.S.P.H.S. • Hospital, Sheepshead Bay, N.Y.; A. Hopkins & Assoc., Architects





Residence and School for Nurses

Bellevue Hospital, New York City

Alfred Hopkins & Associates, Architects

This great project, to occupy something more than an entire New York City block, is of interest on four major counts:

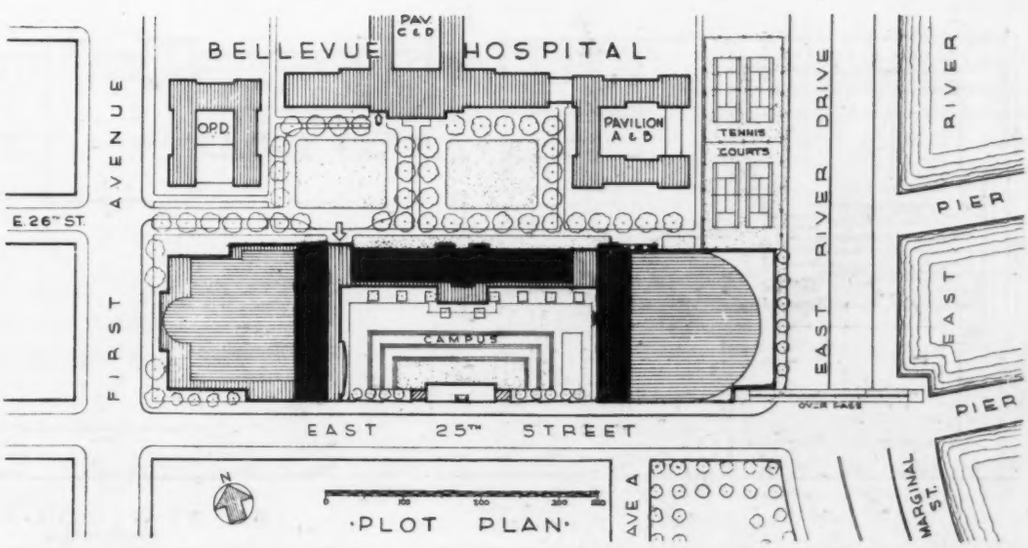
1. It is a large structural group that will actually be built after the war.

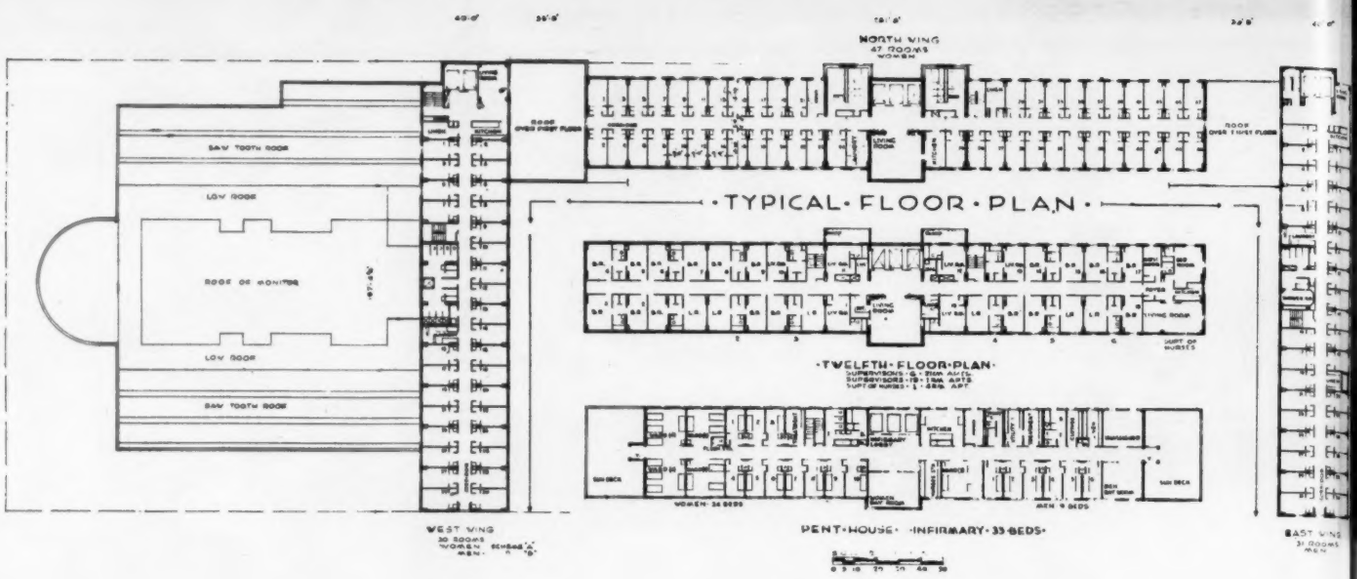
2. It represents a new approach to planning the training and residence facilities for the nursing profession.

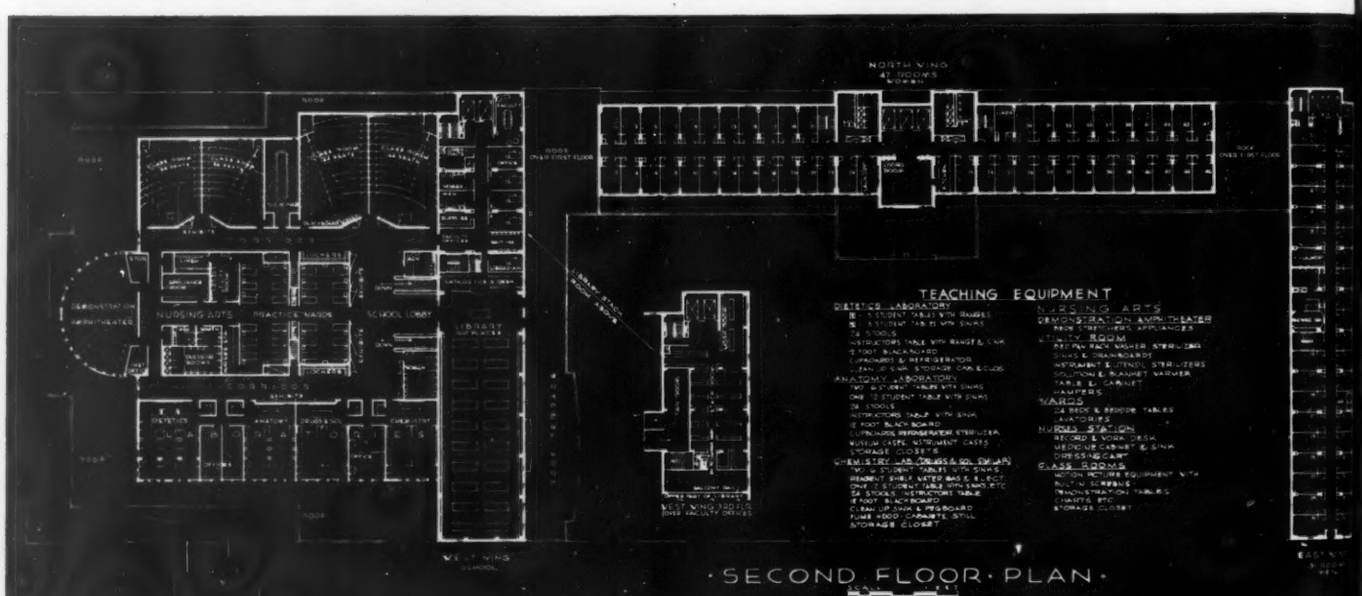
3. The reinforced concrete structure employs a cavity-wall system and includes a three-dimensional modular unit—the individual student's room.

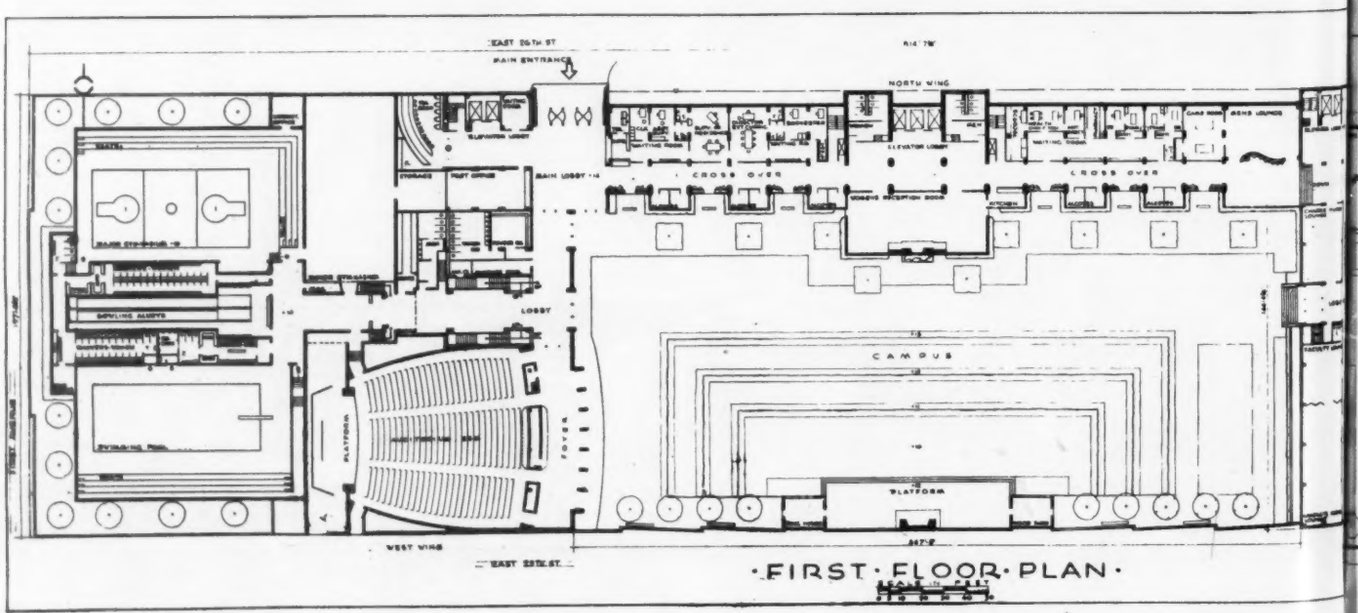
4. The plans include notable features in heating, sanitation, lighting, etc.

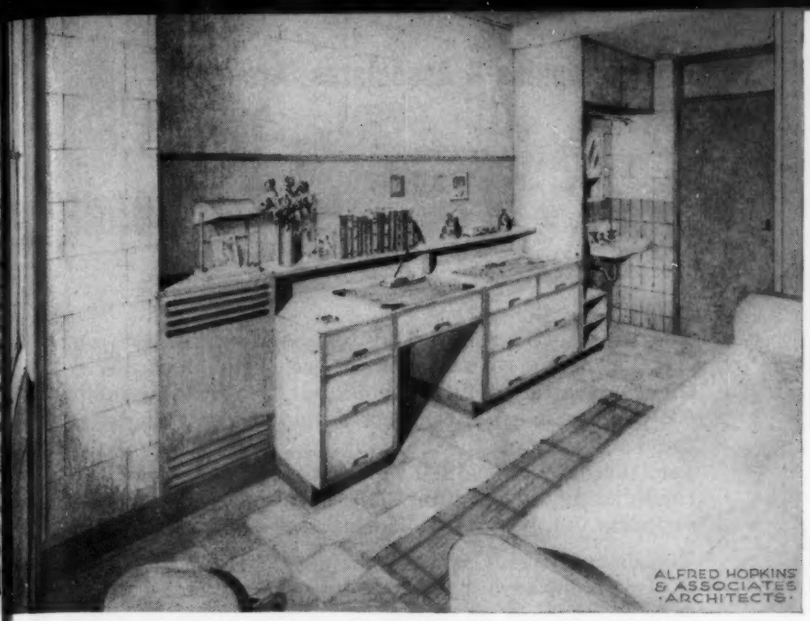
The group was designed by the architects under the direction of the Bureau of Architecture, Department of Public Works, City of New York; A. Gordon Lorimer, Chief of the Bureau; Isadore Rosenfield, Chief Architect, Hospitals.

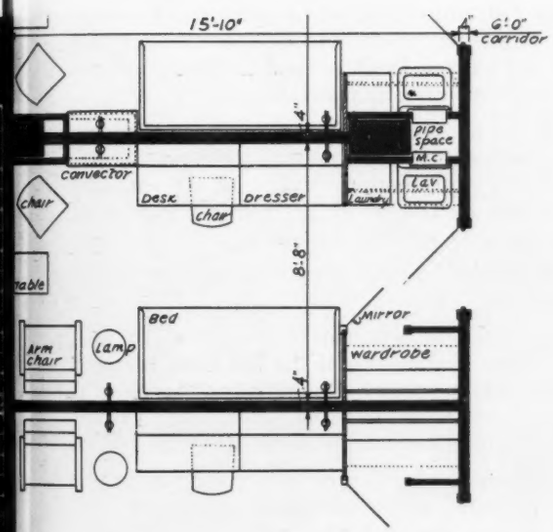



NORTH WING
47 ROOMS
WOMEN
SAW TOOTH ROOF
LOW ROOF
ROOF OF MONITOR
LOW ROOF
SAW TOOTH ROOF
·TYPICAL·FLOOR·PLAN·
·TWELFTH·FLOOR·PLAN·
WOMEN 36 BEDS
MEN 9 BEDS
WEST WING
30 ROOMS
WOMEN
MEN
·PENT·HOUSE· ·INFIRMARY· 33 BEDS·
EAST WING
31 ROOMS
MEN

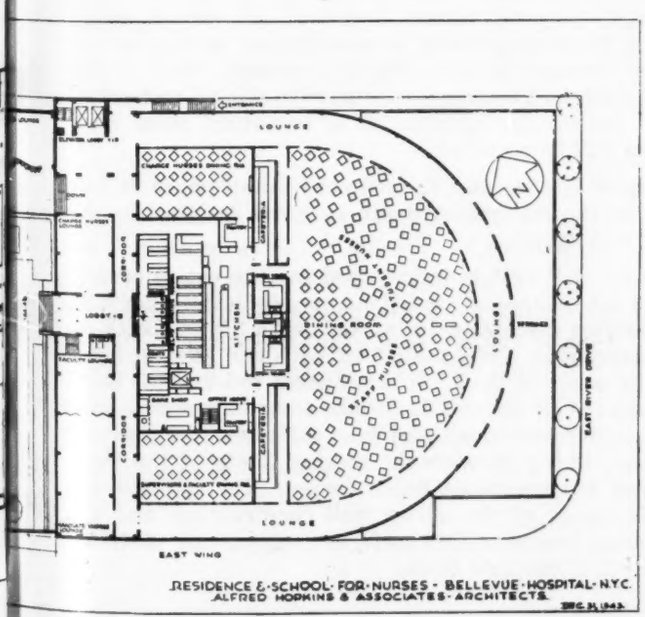

NORTH WING
47 ROOMS
WOMEN
NURSING ARTS
PRACTICE MAIDS
SCHOOL LOBBY
LIBRARY
TEACHING EQUIPMENT
DIETETICS LABORATORY
ANATOMY LABORATORY
CHEMISTRY LABORATORIES & LECTURE
NURSING ARTS
DEMONSTRATION AMPHITHEATER
KITCHEN
MAIDS
NURSES STATION
GLASS ROOMS
WEST WING ADDED OVER FACULTY OFFICES
·SECOND·FLOOR·PLAN·


EAST 26TH ST
MAIN ENTRANCE
NORTH WING
CROSS OVER
CROSS OVER
MAIN LOBBY
LOBBY
BOWLING ALLEYS
SWIMMING POOL
PLATFORM
FOYER
CAMPUS
PLATFORM
WEST WING
EAST 25TH ST.
·FIRST·FLOOR·PLAN·





AN OF TYPICAL NURSES ROOM
ALE IN FEET 0 1 2 4 6 8



The need for a centralized nursing school and residence at Bellevue Hospital is very great. The present dormitory building, built in 1908 and added to in 1913, houses only 450 nurses; space is required for some 850. At the present time, several hundred nurses must live in various parts of the hospital and in neighboring houses; dining facilities are inadequate, and teaching rooms are scattered in numerous buildings. This system is difficult to administer efficiently; it also uses hospital spaces badly needed for other uses.

The postwar accommodations will provide rooms for 850 student nurses (700 women; 150 men) and 50 staff and faculty members. In addition to student rooms, there will be central dining facilities, a unified educational unit designed in accordance with accepted educational standards, a student infirmary (on the top floor), and recreational and physical education facilities.

The "College" Plan

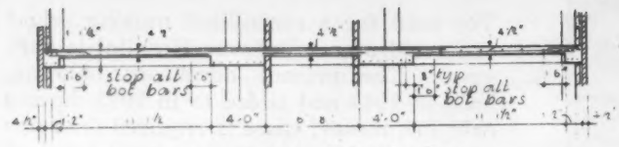
A major center for nurses' training, the Bellevue School, through an arrangement with New York University, grants the degree of Bachelor of Science in Nursing. Not the least important part of the proposed scheme is provision of amenities that will provide a rounded and prideful college atmosphere, that will help make nursing as attractive a calling as any other professional occupation.

Hence, we find incorporated in the plans a sizable campus, facing south, between the two north-south residence wings; swimming pool, gymnasium, and bowling alleys; social corridor with "beau parlor" alcoves; a large semicircular dining hall, surrounded by a lounge, which overlooks the East River; and a school library.

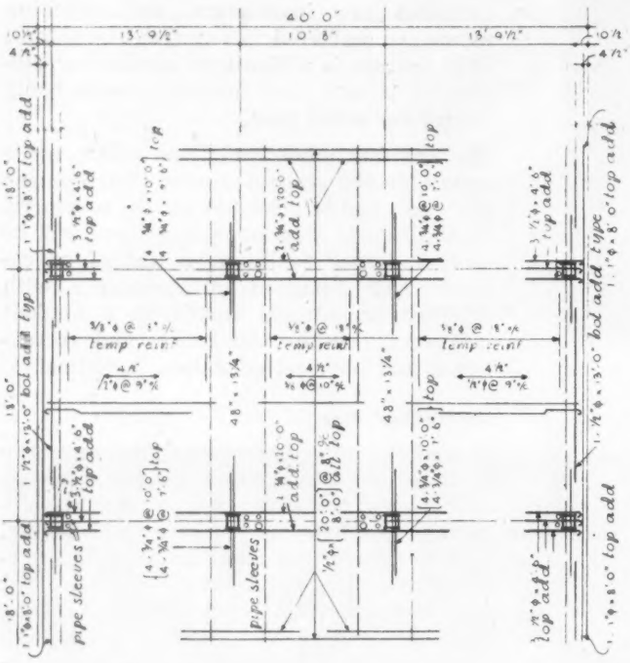
To make way for the new group, several antiquated buildings (including the present inadequate nurses' home) will be demolished. The overall scheme consists of three units organized around the campus-court. On the lower floors, the easterly unit contains the dining rooms; the western unit houses provision for physical education, with other school facilities—class rooms, laboratories, demonstration amphitheater, etc.—set back from First Avenue noises, on the second floor. In the connecting building, along the north side of the campus, are administrative offices and public spaces. The first and basement floors of the three buildings are connected, making a continuous structure at these levels. Above, the units are separate, worked out in this way —among other reasons—because of extreme site conditions from west to east, requiring entirely separate handling of foundations. The majority of the rooms that need quiet face the landscaped campus. Dormitory rooms that face First Avenue are removed 180 feet from the noisy thoroughfare.

The space below the dining room, caused by the slope of the site, is planned to house badly needed garage facilities for 66 cars, a 25 percent increase over present accommodations.

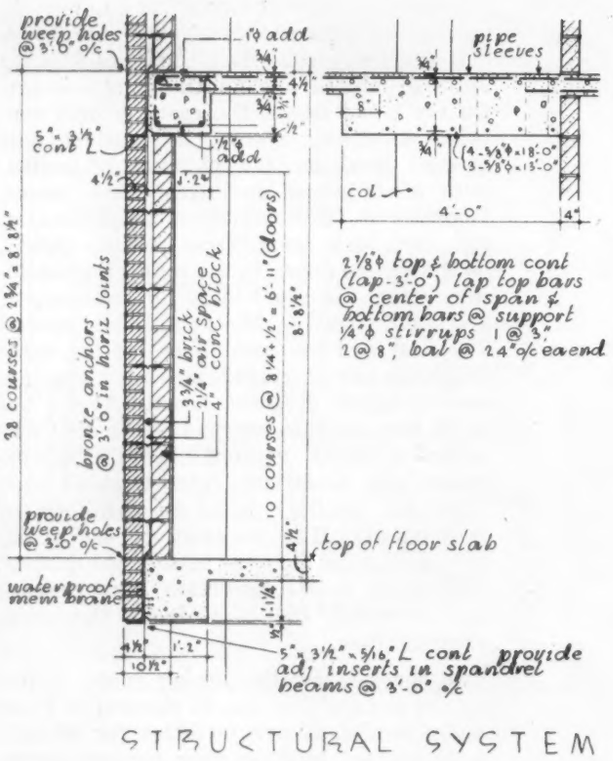
Alfred Hopkins & Associates, Architects



TYPICAL SECTION



TYPICAL PART FRAMING PLAN


provide weep holes @ 3'-0" o/c
pipe sleeves
5" - 3½" cont L
col
4'-0"
2⅛" ϕ top & bottom cont (lap - 3'-0") lap top bars @ center of span & bottom bars @ support
¼" ϕ stirrups 1 @ 3", 2 @ 8", bal @ 24" o/c each end
38 courses @ 2¾" = 8'-8"
bronze anchors @ 3'-0" in horiz joints
3¾" brick
2¼" air space
4" conc block
10 courses @ 8¾" + ½" = 6'-11" (doors)
8'-8"
top of floor slab
provide weep holes @ 3'-0" o/c
waterproof membrane
5" - 3½" - 5/16" L cont provide adj inserts in spandrel beams @ 3'-0" o/c

STRUCTURAL SYSTEM

The projected structural system is a reinforced concrete skeleton with monolithic concrete slabs. With this system, the architects point out, two framing methods are possible: 1. concrete beams at right angles to the long axis of the building and located over each partition; 2. longitudinal supports running parallel with the building axis and flat slabs spanning between these supports and the outside. The latter method was adopted.

The desirable size and requirements of the individual student room were the chief determining factors. A uniform spacing of partitions at 9 feet provides ample room for student bed and standard unit furniture across the room. Another factor: it was desirable to have a good-sized window and a reasonable sitting area near it uncluttered by radiators or other projections. Furthermore, it was necessary to include at the corridor end of each room a recessed lavatory and a closet, as separate from the living area as possible.

The details of the adopted structural system show how all of these desiderata were realized. Four-foot-wide slab strips border the corridor walls. A 4½-in. slab spans from these to the beam on the exterior wall. Ducts are provided at exterior columns.

The result on the individual room plan and its equipment is as follows:

1. A lower ceiling (the 4-ft. corridor strip slab) near the entrance. Here are organized the tile-lined lavatory recess and the generous closet. The unit thus becomes in effect a vestibule to the room proper, achieving the desired goal of relative separation from the living area.

2. With ducts located at columns, concealed convectors may be flush mounted along the partition wall at this point. This leaves the exterior window wall completely free for arranging furniture for enjoyment of the outlook. The heating element is not absolutely decided as yet, however. Among other things, the architects are investigating use of ceiling-mounted radiant-heating panels along the window wall.

Special Conditions. Over large public areas, the standard-unit framing system does not, of course, apply. Above the dining room, a steel frame with ordinary cinder concrete construction is proposed. Steel is also to be used for framing over the recreational and school area. Above the auditorium a two-story steel truss system will be required.

Cavity Wall (See also the Selected Detail pages in this issue on the Manhattan Beach Hospital designed by the same architects).

A cavity wall system is proposed for the entire project except where special conditions may indicate otherwise. The system involves a 10-in. wall, with 3¾-in. brick on the exterior, an air space 2¼ in. wide and interior layer of 4-in. concrete block. It is proposed to leave the block unplastered as interior finish, the same units being used for corridor partitions, and even the tile of the lavatory recesses, lining up with the mortar joints of the block to form an integrated finish design. The columns are wholly inside of the cavity wall construction, and the perimeter beams project to form a supporting shelf for the layer of concrete block.

Toll House, Stowe, Vt., Built for Skiers

Edgar H. Hunter, Architect

Photo by Richardson

Photo by Cushing-Gellatly

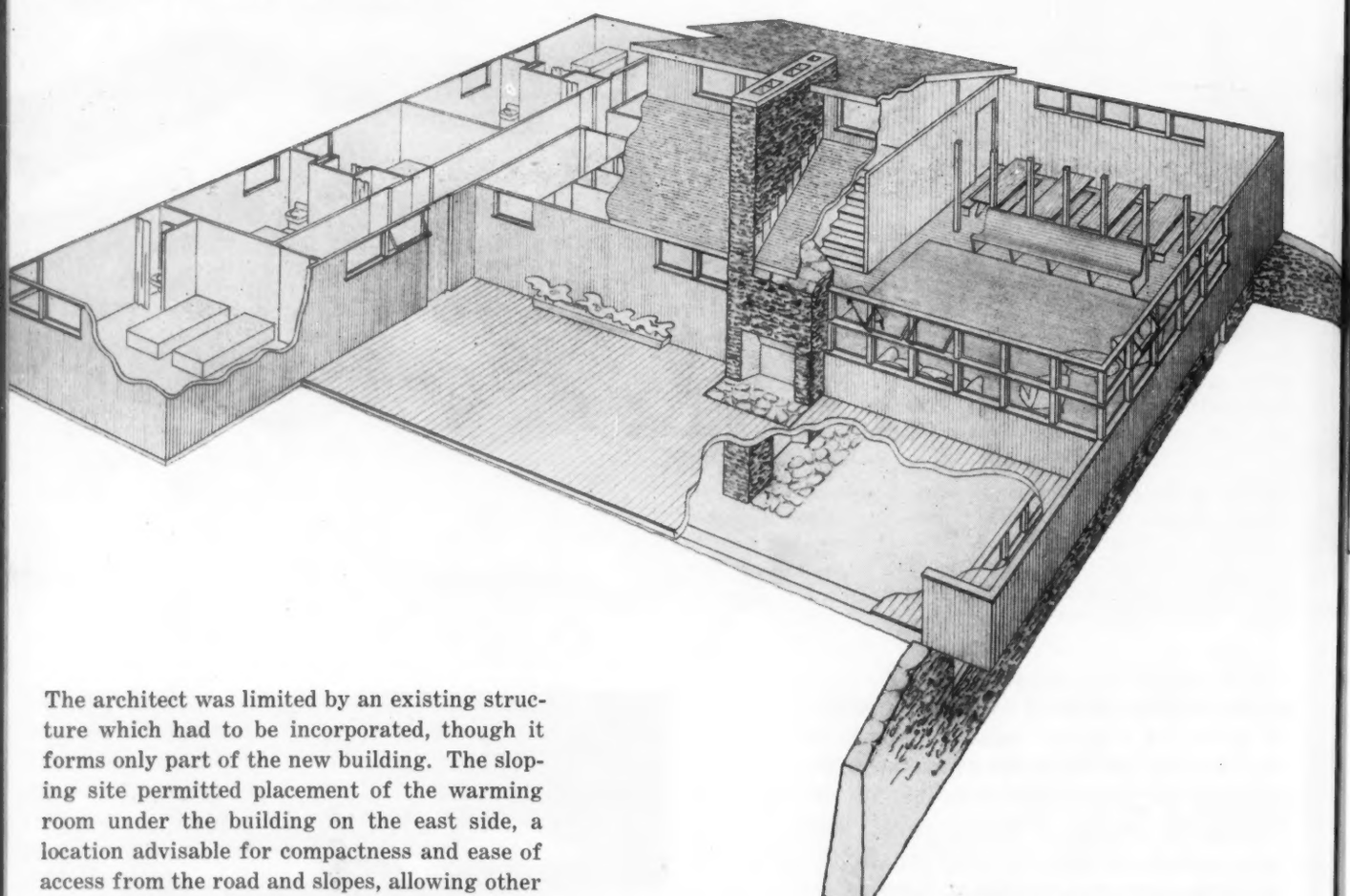
The recreation facilities of northern New England constitute a major industry. Comparatively recently, interest in the winter vacation, paralleling the development of skiing, has resulted in the growth of winter resorts and skiing centers all over the country. In the East, such a center is located at Stowe, Vermont, where good snow conditions have overcome difficulties of access.

Photo by Richardson

Photos by Cushing-Gellatly

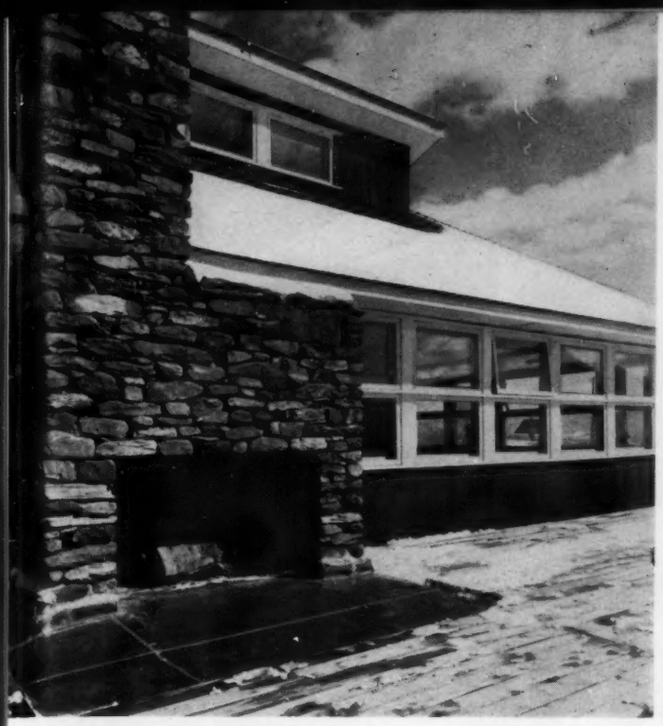
The Toll House has three functions: headquarters for the Sepp Ruschp Ski School; a public area for the students and other skiers from nearby slopes with a lunch counter for hot coffee and other food; sleeping and living quarters for paying guests.

Edgar H. Hunter, Architect

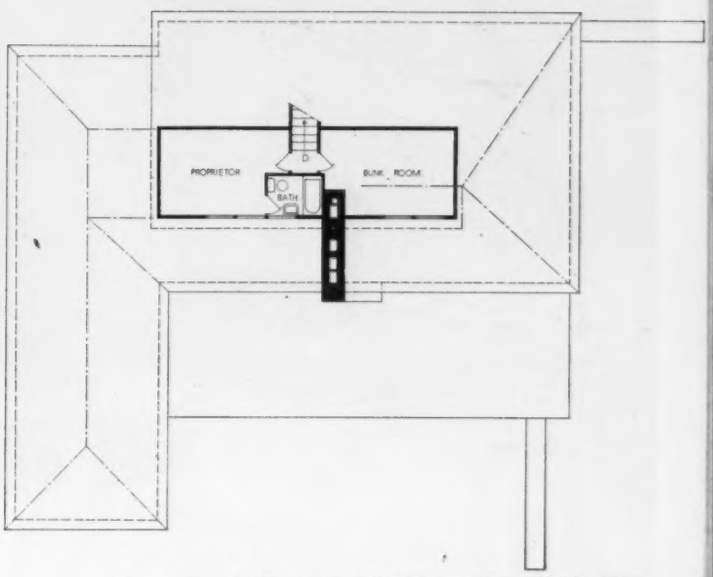


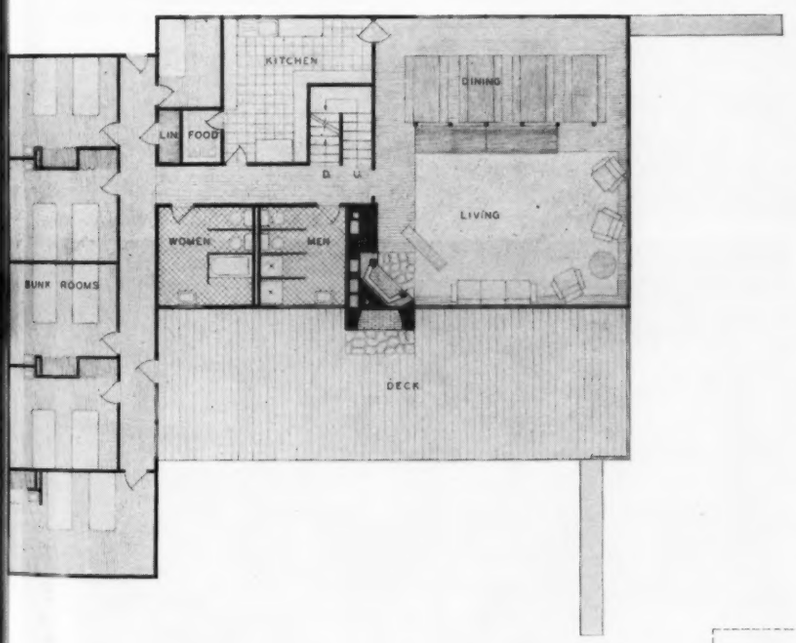
The architect was limited by an existing structure which had to be incorporated, though it forms only part of the new building. The sloping site permitted placement of the warming room under the building on the east side, a location advisable for compactness and ease of access from the road and slopes, allowing other parts of the building benefit of the view.

Drawings by Edgar H. Hunter

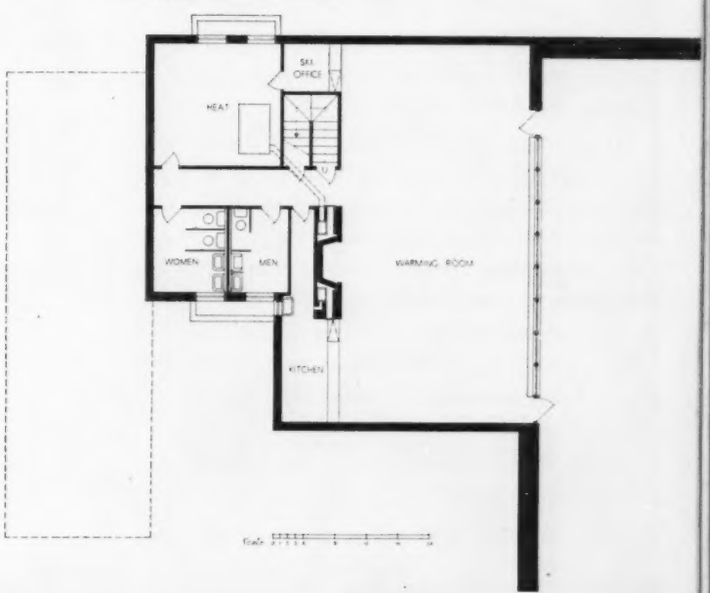


The outdoor fireplace—at the base of the ski trail





Located at the base of Mount Mansfield, Vermont's highest peak, the building is at the juncture of the Toll Road up the mountain which is used in summer by motor tourists and in winter by skiers, and the Smuggler's Notch Road running on up to the chair lift carrying skiers up the mountain. The practice slope is nearby, and one of the ski trails ends near the deck where outdoor meals are sometimes served beside the large fireplace. Lunch may be obtained in the warming room on the ground floor level. The plan makes use of the varying levels of the site to obtain a strong differentiation between the purely public area—the warming room—and the bunk rooms, living and dining room for guests. The staff has quarters on the third level. Windows take in the view to the mountain and down Smuggler's Notch. The deck faces south and is protected by the bunk room wing from the prevailing wind through the Notch.



Obvious access to the building is through the door to the warming room. Since it was desirable to separate the areas used by the public from the guest quarters on the first floor, no direct access from the deck into the first floor living room was provided, and entrances to this first floor level were purposely made inconspicuous.

Photo by Richardson

Edgar H. Hunter, Architect

Native pine sheathing with three coats of hard wax is used in finishing the living-dining room and the corner fireplace benefits this entire area. Circulating units occur in both inside fireplaces. The modular disposition of the windows is repeated inside by the structural 4″ x 4″ posts, separating living and dining areas. This separation is further carried out by a specially designed wooden bench between the spaces. Large tables and wooden benches are set up family style in the dining room.

In the bunk rooms placement of the wash basins near the windows was accomplished by installation of all valves and traps within an insulated box through which the steam heat risers are led. This prevents freezing of pipes at night when windows are opened. Homasote insulating board is applied in large sheets to walls and ceiling. The 4′ module adopted in the main wing permitted the use of 8′ x 12′ sheets of this board on the ceiling without any cutting. A separate office room was specifically omitted to encourage a more informal atmosphere.

The proprietor and his wife have a large room on the third level with a private bath. The balance of this area is given over to bunk

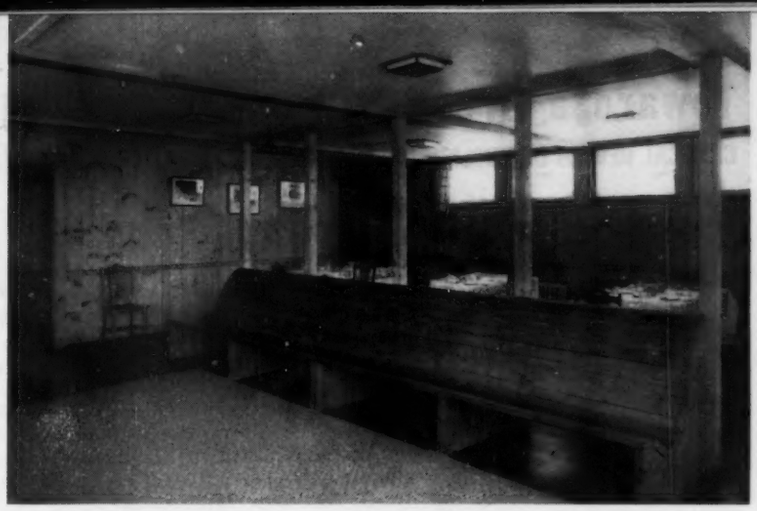
Photo by Cushing-Gellatly

Window corner of living room

rooms for the staff. Homasote sheets were again used here.

Fir flooring, rift-sawn and treated with preservative, is the exterior finish. Roof pitches were just sufficient to permit use of cedar shingles. The chimney, retaining walls, and warming room wall, are all of native, slate-like stone laid in Portland cement mortar with deep raked joints. All flues are carried in one chimney. A single size wooden sash was used in two types of frame throughout the building. There are enough windows so that, even though specially designed, the system used was less expensive than standard sash.

The warming room has a rough, concrete floor since it must be a non-skid surface for slippery ski boots. Three walls are covered with waxed native pine sheathing. Continuous windows on the fourth wall are set above native stone. The fireplace is of the same stone with a five foot opening. Along the north wall is a continuous counter at which sandwiches and coffee are served. The heating plant, public toilets, wood and coal storage take up the remainder of this level.



Living room—dining area, above; fireplace, below

Warming room

Photos on this page by Cushing-Gellatly

Toward a Green and Pleasant England?

CRITICAL REVIEW OF ENGLISH PUBLICATIONS ON POSTWAR PLANNING

Prepared by Catherine Bauer

(For first-hand acquaintance with this material I am indebted to E. J. Carter, Librarian of the Royal Institute of British Architects, Katherine McNamara, Planning Librarian at Harvard University, and the British Information Services in New York. Doubtless there are important publications I have missed — particularly in the agricultural field — but this should provide a fair sample of the extraordinary volume and positive character of current English thinking. — C. B.)

"We have one large immediate task in the replanning and rebuilding of our cities and towns," *Winston Churchill* in a broadcast, March, 1943.

"In a very high degree the world's verdict on postwar Britain will depend upon the way in which we apportion our country — our little country — among the many urgent claims upon us," *W. C. Morrison*, Minister of Town and Country Planning, July, 1943.

"The Committee realize that many interests will oppose the ideas of the Regional Plan and its implications for wider planning, national and international. These will be vested interests or those that may be termed political or belong to the lazy-minded and those who would return to the muddle and confusion of pre-war days because they have no vision or are too callous 'to look around the corner.' These various interested motives or lack of them, must not prevail. There can be no place in the Councils of Peace for the timid, the disinterested, or the obstructionist; these are not tolerated in war, must we allow peace and reconstruction to be so guided?", the *London Regional Reconstruction Committee, Royal Institute of British Architects*, May, 1943.

BROAD ANALYSIS AND PHILOSOPHY

Finer, Herman, *(of the London School of Economics), POSTWAR RECONSTRUCTION IN GREAT BRITAIN, in the* Canadian Journal of Economics and Political Science, *November, 1942. The only thorough analysis I have found of the political dynamics behind the planning movement. Five types of proposal are described: physical reconstruction; social services (including housing); education; machinery of government (including regionalism); and controls for industry and commerce. Mr. Finer feels that these issues "... have revolutionary implications. United with revolutionary feeling, they may have revolutionary results. But Parliament and Royal Commissions are to be the method, not the barricades."*

Gutkind, Erwin, *CREATIVE DEMOBILIZATION, Vol. I, PRINCIPLES OF NATIONAL PLANNING, Kegan Paul, 1943. Outstanding example, to this reviewer at least, of the didactic presumption and unreality that result from trying to treat "planning" as an exact science, with no political base whatsoever.*

McAllister, Gilbert and Elizabeth, *TOWN & COUNTRY PLANNING, Faber and Faber, 1941. The best brief history of English housing and town-planning available, plus discussion of postwar issues and the proposals of the Town and Country Planning Association.*

Mumford Lewis, *THE SOCIAL FOUNDATIONS OF POSTWAR BUILDING, #9 in the Rebuilding Britain pamphlet series, Faber and Faber, 1943. A positive philosophy to guide the age of stabilization, wherein the problem is, "not how much of the superstructure should be replaced, but how much of the foundations can be used for a new set of purposes and for a radically different mode of life."*

Osborn, F. J. *OVERTURE TO PLANNING, #1 in the Faber and Faber pamphlet series. A practical statement of the issues by a leader of the revitalized Garden City movement.*

Richards, J. M. *A THEORETICAL BASIS FOR PHYSICAL PLANNING, in the* Architectural Review, *February and March, 1943. A stimulating effort to develop a fresh hypothesis, in social-psychological terms, for the relation of environment problems to contemporary culture.*

TOWARD A NATIONAL POLICY FOR LAND, BUILDING, AND POPULATION DISTRIBUTION

The Royal Commission Reports (H. M. Stationery Office):
The Committee on the DISTRIBUTION OF INDUSTRIAL POPULATION (Barlow), *1940, recommended a Central Authority, to carry out a positive policy of "decentralization or dispersal, both of industries and industrial population, from ... congested urban areas," to new or existing communities selected to achieve a "reasonable balance of industrial development," and regional diversification, throughout Great Britain.*

The Committee on LAND UTILIZATION IN RURAL AREAS (Scott), *1942, wants strong protection for good farmland, and vastly improved housing and community facilities for the rural population. In a Minority report Professor Dennison recommends less emphasis on preserving the countryside from urban or industrial encroachment, more on properly coordinated planning to serve all national interests.*

The Expert Committee on COMPENSATION AND BETTERMENT (Uthwatt), *1942, recommends acquisition by the State of development rights in all land outside built-up areas; vastly increased local powers for the compulsory acquisition of land; and a periodic levy on all increases in site-values ... and is generally recognized to be a prudent step toward land nationalization.*

The best summary of these three reports is a pamphlet prepared by Nuffield College *and introduced by G. D. H. Cole, BRITAIN'S TOWN AND COUNTRY PATTERN, #2 in the Faber and Faber series. (A brief summary is included in Douglas Haskell's two excellent articles, BRITAIN'S PLANS ARE BOLD, in the* Architectural Record *for March and April, 1943.)*

Sir William Beveridge *supplies a good quote on the importance and status of these Reports at the present moment (speech, December 1, 1943): "Squalor is a tougher Giant than Want. A Government which hedges on Beveridge is only too likely to be ditched on Barlow and Uthwatt. I wish I felt real hope that this fear was not going to come true. Because we cannot postpone building long after the war, if we are to house our returning soldiers properly; we cannot start building without a national plan for the location of industry, unless we mean to make a lasting mess of the country again; and we cannot have a national plan until we have decided to do not less than Barlow and Uthwatt."*

British Information Services *(N. Y.) have published three volumes of official statements on postwar issues of which the last, BRITAIN LOOKS AHEAD (1944), includes remarks on physical reconstruction, land planning and housing by the Ministers of Town and Country Planning, Works, Health, et al. Policy and activity on housing, at least, sound positive. Another publication, POST-WAR PLANNING IN BRITAIN, is an invaluable directory of organizations concerned with postwar planning, political, professional, and otherwise, and of their main proposals and publications.*

The Economist *has frequent editorials on planning progress. The issue of Sept. 18, 1943, suggests that the Uthwatt Report "has now little chance of adoption ... Inevitably, the discussions must turn back to the more radical and more thorough alternative which the Committee set aside — nationalization or, more precisely, the progressive vesting in the community of property rights in land, as and when the need for the effective planning of land-use requires it."*

Gibbon, Sir Gwilym, *RECONSTRUCTION AND TOWN AND COUNTRY PLANNING, Architect and Building News Press, 1942. Outraged by the surge of "Utopian planners," this ex-government official calls the famous Commission Reports "three chariots for paradise," but includes some sharp and realistic remarks on political processes.*

Gutkind, Erwin *(Editor), CREATIVE DEMOBILIZATION, Vol. II, CASE STUDIES IN NATIONAL PLANNING, Kegan Paul, 1943. Much better than Volume I, this book includes factual studies of specific regions, an excellent analysis of agricultural planning issues by J. R. Currie, and stimulating material on everything from landscape to industrial planning, electrification, population redistribution, and the location of new towns.*

Holford, Professor W. G., *TOWARD A NATIONAL PLANNING SURVEY,* Journal of the Town Planning Institute, *May-June, 1943. This able and progressive young architect-planner, now a Government official, also did an excellent article on the LOCATION AND DESIGN OF TRADING ESTATES* (Journal of the T.P.I. *March, 1939), a pre-war English development that should be better understood in America.*

Housing and Planning News Bulletin, *organ of the National Housing and Town Planning Council. For many years this bi-monthly publication has supplied the best factual review of developments in English housing and planning policy. It reflects the solidly progressive though frequently uninspired points of view of the local authorities and trade unions who support the organization. Issue #25 reports a conference last October attended by "1750 official representatives of 638 local authorities and 30 Associations and Unions," which evinced great irritation at the delays of the Government.*

Industrial Christian Fellowship, *THE HUNDRED NEW TOWNS SCHEME. Proposes to remove 4 million people from greater London, the other large cities, and the areas of "architectural sprawl," and resettle them in compact new towns of about 40,000 population ... each of which would save "about 200 miles of ribbon development." Wants green "wedges" instead of greenbelts, to permit growth.*

Labour Party, *HOUSING AND PLANNING AFTER THE WAR, 1943. Rather pious and general except on such basic proposals as: 4 million new houses in the decade following the war; higher standards in public housing, and rents to reach those who really need it the most; lower interest rates; and outright land nationalization.*

Malvern Conference, *MALVERN AND AFTER, Report of the Committee of Industrialists and Economists with Theologians, introduced by the Archbishop of York. The study, requested at the famous Malvern Conference of the Church of England, proposes that "Every child should find itself a member of a family housed with decency and dignity, so that it may grow up ... unspoilt by underfeeding or by overcrowding, by dirty and drab surroundings, or by mechanical monotony of environment." It concludes that "far-reaching changes in the present system of land ownership are required ... in particular, the owner of the sites of cities has hardly any function that would not be as well or better performed by a public body, while he absorbs a great deal of wealth communally created ..."*

Osborn, F. J. *THE LAND AND PLANNING, #7 in the Faber and Faber pamphlet series, 1943. A thorough technical analysis of the "compensation and betterment" problem, valuable as an introduction to any detailed study of the Uthwatt Report, but not very directly pertinent to traditional American practice.*

PEP, (Political and Economic Planning), *an anonymous group of experts, has issued several hundred broadsheets and reports on all types of planning problem. Solid, and invaluable for reference, they seem to be losing spark and decisive clarity. However, #180 and #181, on PUBLICLY OWNED LAND and NATIONAL POLICY TOWARD LAND, are important background documents on this issue, and the volume Report on the LOCATION OF INDUSTRY (March, 1939) is a classic.*

Royal Institute of British Architects Reconstruction Committee, *FIRST GENERAL STATEMENT OF CONCLUSIONS, reprinted from the* R.I.B.A. Journal, *August, 1942. An outstanding document recommending a National Planning Authority; a National Development Commission; a National Code for Living Standards, Structural Standards, and Financial Provisions; complete public control of land-use; decentralization of population and industry and the development of new towns; and a forthright national policy for public and private housing and community facilities. Includes sensible remarks on the role of architects in Civic Planning.* Must reading *for American architects, who could make some useful comparison with the postwar proposals of the A.I.A.*

Silkin, Lewis, *THE NATION'S LAND, a Fabian Society pamphlet, 1943. An excellent critical history of English planning measures, by a Member of Parliament and of the London County Council. Silkin summarizes the three Commission Reports, claims that the Uthwatt proposals are "no simpler than nationalization," and quotes Lord Astor, the Lord Mayor of Plymouth: "Public ownership of land in a city is vital to its replanning. Hitler has given blitzed towns an unexpected chance which the Government must not spoil by lack of vision and courage."*

Society of Friends, Industrial and Social Order Council, *has been issuing a pamphlet series on PLANNED RECONSTRUCTION that*

(Continued on page 94)

BPF

Introducing a New Service for Pencil Points Readers

by Don Graf

Before the war, the designer of a building could have chosen from among about 20,000 separate product items manufactured by some 4,000 local, regional, and national manufacturers. During the past two decades the number and variety of building products have increased amazingly and the present emergency promises further to speed up the rate at which new or changed products will be made available to the building industry.

As a result of the multiplication of material and equipment items the architect spends a larger and larger percentage of his business time in the consideration of products. The building dollar must be split with nice judgment among the 41 major classifications of building products. Skill in the choice of materials for a building has a "one-hoss shay" implication. The desired performance and the cost of products have to be in careful balance according to their relative importance in the completed whole. If only strength entered into the balancing process it would be infinitely easier than it is. But appearance and convenience are in large measure influenced by the products used. The development of panel materials, larger and stronger sheets of glass, lighter and stronger metals, has profoundly affected the appearance of our modern buildings. The length of the logs in the forest set the maximum plan dimension of the woodsman's cabin. The plans of buildings from the beginning of time have been modified in a similar way by the materials available for both the horizontal and vertical elements of construction.

And thus it is that upon intelligent, broad knowledge of what the product market affords is largely based the satisfaction which a building ultimately renders to its occupants. In a very real sense, architecture is spelled P-R-O-D-U-C-T-S.

Yet, with the added complexity of the building market, no steps have been taken to render the architect's selection of suitable products easier. So far as reference material, text books, research data, or architectural education is concerned, little progress has been made in simplifying the presentation of the basic information needed in order to design, specify and superintend. On the contrary, the tide of printed matter purporting to provide information on building products has swelled at an even faster rate than the volume of the products themselves.

Some years ago the Producers' Council estimated that an architectural office received 74 pages of direct-mail advertising per day. We know of one catalog on a relatively simple piece of equipment, which consists of 500 pages. Another catalog on a single product comprises 17,868 words!

It was once stated by an informed source that a complete architectural file of building product catalogs would require 100 linear feet of filing space—or thirteen 4-drawer filing cabinets stuffed completely full! When we have tens of thousands of architectural men all trying to cram 52 file drawers of information on building products into their individual heads, we begin to understand the urgent need for some faster, surer system of making building facts available for reference.

One of the principal reasons for that curse of the architectural profession, the "or equal" clause, is that the architectural man has not the time, testing facilities, or the patience to go through a mile-high pile of printed matter and samples to determine the trade names of all competing products which are essentially equal. So he is forced to specify a product familiar to him—followed by the inevitable "or equal" to protect his client from possible bidding irregularities.

With this issue of PENCIL POINTS we begin a regular feature consisting of information on building materials and equipment in highly concentrated form for fingertip reference. It is intended to present exactly that information required by the man who must select building products, together with a bibliography of published material for those who wish to pursue any given subject in more detail.

The information given on the various materials will be based upon recognized standards and the work of independent and unbiased testing laboratories in so far as it is possible. It will be *basic, plain,* and *fast.*

The most valuable feature of BUILDING PRODUCT FACTS will be the inclusion of sources of supply. What good is it to know all about a product if you don't know where to obtain it? In so far as possible all the manufacturers of a given class of product will be tabulated together with the trade names under which their separate products are advertised and sold.

The collection, digestion, and deverbalizing of the source material on a single subject is a slow, uncertain process. Therefore we are not able to commit ourselves to the presentation of a fixed number of subjects each month. Some months there will be two products presented, other months one—and maybe once in a while there won't be any! But if you who read PENCIL POINTS indicate by your letters that this feature is valuable to you, we will make every effort to prepare and publish just as many subjects each month as we possibly can. Tell us what products or classes of products you want featured in this series so that these data will be of the greatest help to the greatest number.

Since no other attempt has ever been made to present product information in this form, it is obvious that BUILDING PRODUCT FACTS do not compete with, or attempt to supersede, any existing reference literature. However, we have not the slightest doubt but that there will appear, within a short time after this series has started, a number of more or less similar copies—as there were in 1932 and 1933 after the DATA SHEET series had made their initial appearance. But just as the DATA SHEETS outlived all of their imitators, so we hope the BUILDING PRODUCT FACTS will prove to be so uniquely valuable that they, too, will survive any "sincerest flattery."

Our present plans are to make reprints of the BUILDING PRODUCT FACTS available by purchase, separate from the magazine. These will

be accurately trimmed and punched so that they may be either filed in a standard letter file or in a standard looseleaf ring binder. Looseleaf ring binders will also be made available if sufficient interest is shown in having such means for keeping BUILDING PRODUCT FACTS in an orderly and systematic manner. Announcement of the sale of reprints and looseleaf binders will be made in these pages at a later date as soon as the details have been worked out.

Regardless of how the BUILDING PRODUCT FACTS are kept for ready reference, it is important to point out that no filing index is necessary. These pages are to be filed alphabetically according to the principal noun. For instance, if you want information on glass, you look under G. If you want material on sheathing, you look under S. However, any system, if adhered to inflexibly, can bully the user instead of being at his command. Therefore some common sense will be applied to this method of titling the sheets for filing. As an example, Yellow Paint would be filed under P for "Paint." On the other hand, Standard Garage Doors would be filed under G for "Garage Doors, Standard." Garage doors bear no relation in use, appearance or properties to, let us say, access doors—and there is no earthly reason why they should be all lumped together under a common index of "Doors." This system will put things that are really alike together in the file and we won't group a potpourri of products which are totally unrelated.

Existing methods of indexing and filing building product "catalogs" have become so complicated and involved as to practically drive you nutty in trying to locate needed facts quickly. With the alphabetical system, no guide or index is required if you know the English alphabet and the name of the class of materials upon which you seek enlightenment.

It is hoped, too, that many manufacturers will want to cooperate in making available information on their specific products in this same form. A number of building product manufacturers have already indicated interest in this idea.

The unbelievable success of the DATA SHEETS was due in large part to the suggestions and criticisms of the thousands who used them. We look forward confidently to a similarly invaluable spirit of cooperation for BUILDING PRODUCT FACTS. Write to Don Graf and don't pull your punches. Tell us what you like and what you don't like, how you want these facts presented. With cooperation between the readers and publishers of this magazine, and manufacturers, we can create a collection of product information of new usefulness.

Editorial Note: The following news item appeared in The New York Times, March 16, 1944. The item is worded exactly as it appeared. But we have introduced italics and juggled punctuation marks as they occurred to us when we read the "news."

ARCHITECTS "GET" AWARD

Eggers & Higgins, Who Finished Jefferson Memorial, Honored

Special to THE NEW YORK TIMES

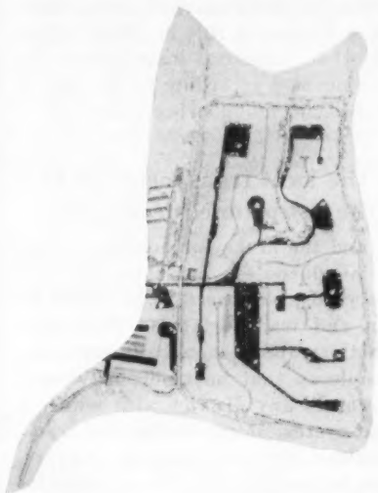
WASHINGTON, March 15—Eggers & Higgins, New York architects of the Jefferson Memorial who carried through to completion the design of the late John Russell Pope, received the award tonight of the Biennial Certificate of Merit conferred by the Washington Board of Trade for *excellence of architectural achievement during the period 1942-43!!*

The memorial was one of seventeen award selections, and the only *monument* chosen for excellence of design from a total of fifty-three "submissions," the other *works* including apartment houses, hotels, new and remodeled office buildings, residences erected during the last two years in the Washington area.

The Certificates of Merit were presented by *Colonel* Charles W. Kutz, Engineer Commissioner of the District of Columbia, at the March general meeting of the Board of Trade.

The award selections were made by Theodore I. Coe, Louis Simon, and N. Max Dunning, all architects of distinction *at present living* in Washington.

Above, the street as a social space (Regent Street, London, 1842, from a lithograph by Thomas Shotter Boys. Below, traffic serves, but cannot dominate, the neighborhood as it might be.



Comprehensive Planning for the City: Market and Dwelling Place

By Herman Herrey

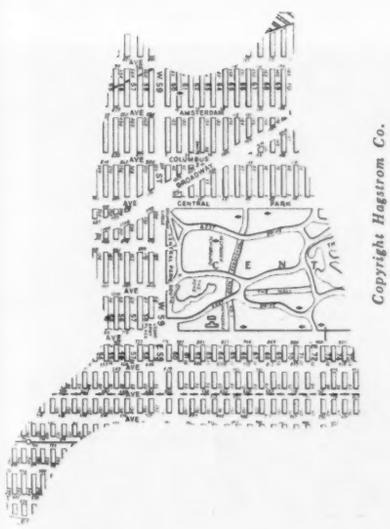
I. Marketing and exchange functions dominate the modern city: Most important function of the modern city is marketing and exchange (in the widest sense):—of goods and services, equities, people, ideas, opinions; of art, science, education; of manners, tastes, fashions; and of other economic, political, social, and cultural interests. Centers for these exchanges are indispensable to modern civilization.

II. The market is the sole excuse for mass accumulations of people: Marketing and exchange alone among civic functions justify massing urban population in higher overall densities. But, considering the many social and economic problems involved in such mass accumulation, modern cities are assets to a nation only and exactly to the degree that exchange is efficiently and economically performed to suit the needs of small or large regions or of the whole country.

Each city must, therefore, continuously adjust its organization, physical layout, and facilities in order to do its job and keep abreast of its competitors.

III. Only comprehensive plans can be effective and realistic: Nationwide or even worldwide areas of competition among cities demand technological and organizational adjustments which no city has yet been able to undertake, principally because no one plan for the needs of any section, single industry, or economic group within a city, or for any single city within the nation, can be made without involving vital interests of the whole. Only a comprehensive plan, ultimately backed by the full power and resources of the nation it serves as a marketing and exchange center, will suffice for a large modern city.

IV. The needs of the city's population are different from those of the market, but must be met to keep the market going: If the marketing and exchange function justifies and causes the large accumulation of people—whom it needs both as operators and as consumers—then a set of other and equally important requirements of this population must be satisfied. Accepted standards of housing, health, education, recreation, etc., must be met. But there are even more fundamental items affecting the social cohesion of the communities within a city. Unless the population can live in regenerating and healthy community units, all other functions, however well organized, are impaired.



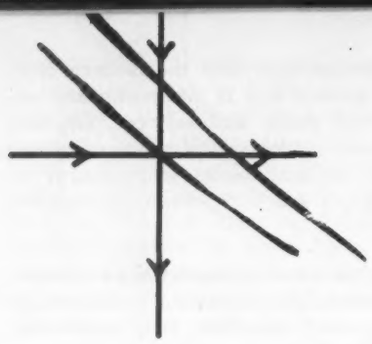
Copyright Hagstrom Co.

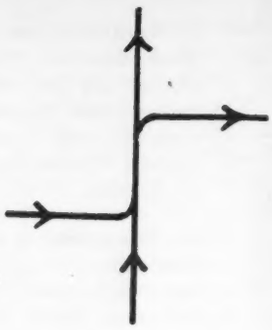
Above, Manhattan: Fifth Avenue, Central Park West, Central Park South—park, hotels, apartments, retail trade unintegrated. Below, a Manhattan traffic jam.

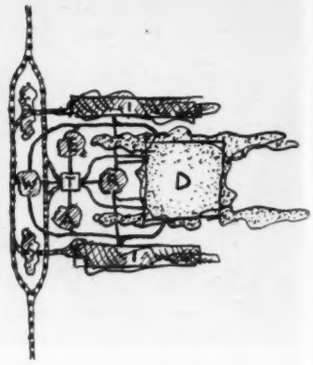
Ewing Galloway

V. The community is a living organism. It must be of human scale and needs space for social intercourse independent of other functions: Social relationships among members of a community constantly change. A multitude of simultaneous groupings, which have a multitude of reasons, spontaneously arise, change, and disappear. This is the nature of social life. To allow the individual citizen to exert and experience personal influence in exchange with his co-citizens, a community should be organized in units small enough to have human scale. To keep the community healthy, its physical shell of buildings, installations, and public facilities—and, above all, its system of public space and streets, where the people constantly meet—must leave ample scope and space for social intercourse. Social space, of necessary extent and segregated from traffic channels, must be reserved in proper shape and location, organized as a self-contained system for pedestrians only, with integrated social facilities (churches, schools, theaters, sports ground, etc.)

VI. Segregation of functions is a primary necessity for the health and development of cities: Both main functions of the city—marketing and dwelling—create a number of ancillary functions with a variety of accessories for administrative, commercial, industrial, educational, transportation, and other purposes. To work smoothly and efficiently, each of these requires independent and segregated scope and space.







In the first portion of his article Mr. Herrey analyzes the traffic problem, which both he and the Editors realize is only one facet of civic design. Sketches above indicate, at left, the usual intersection of streets—the most common hindrance to urban traffic—which Mr. Herrey considers obsolete. In its place he proposes that, as in the center sketch, traffic should not directly cross a street, but should merge with, or weave into, that street's traffic before continuing its course. Traffic would thus be expedited even though the distance to be traveled is longer. At right is a development of circulation for a neighborhood. A is the administrative area; D, dwelling; E, educational; I, light industrial; R, retail; S, storage; T, terminal; W, wholesale. The first portion of the article is the result of studies in collaboration with Erna M. J. Herrey.

VII. The right location for industry is outside the city: Primary and secondary industrial functions, as distinguished from those ancillary to marketing and dwelling, have as a rule no place within the body of the city. Plants and other industrial installations demand their own scope and space to develop according to the nature of product and process and in relation to neighboring cities.

VIII. The reorganization of the local transportation system should precede and underlie any planned development: **Marketing and dwelling districts and the areas for administrative, educational, industrial, commercial purposes and long distance transportation (terminals, freight yards, etc.) need to be joined by an efficient system of circulation and transportation. This must connect the single segregated functions and economically serve the local movement of goods and people so that no traffic movement interferes with any function or crosses any district with which it has nothing to do. Such an efficient system of circulation and transportation is a *sine qua non* of healthy city development. Any reorganization or rehabilitation must be preceded by a reorganization of this circulatory system, and particularly of its network of streets.**

IX. Planning must be for continuity of development following existing trends and based on existing conditions: Like its component

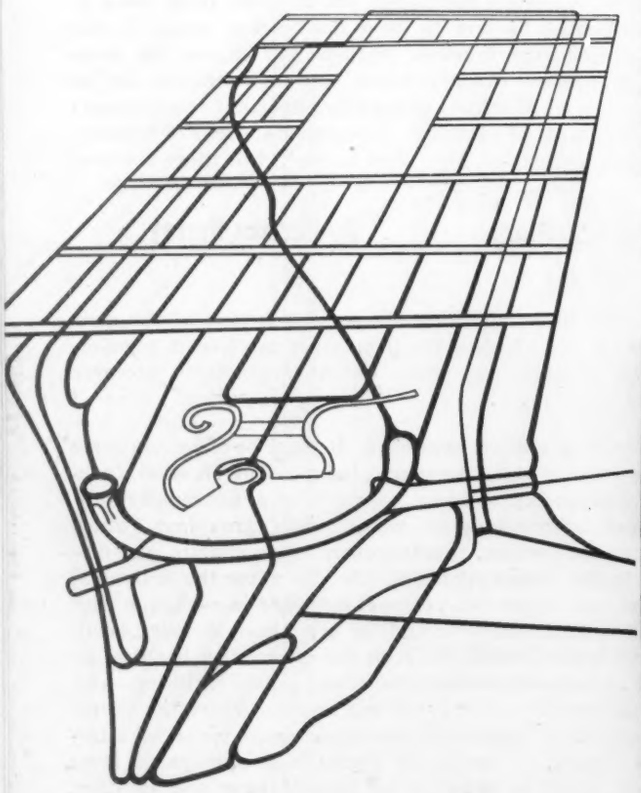
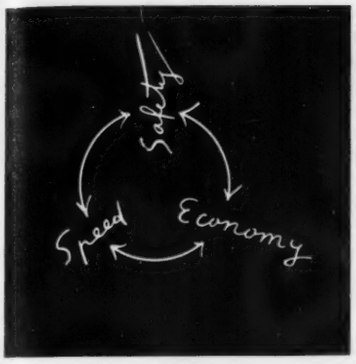
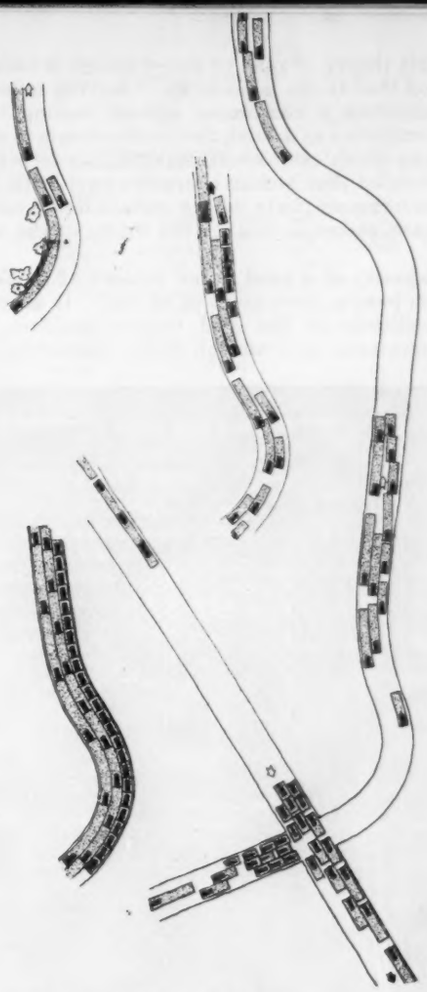


*Photo at right shows a fully developed traffic scheme for Manhattan Island, New York City. The circulation system itself appears immediately above. In an article to be published in a future issue, Mr. Herrey will indicate how such a plan might be achieved bit by bit over a period of years so that adjustment could be gradual. His principal interest is showing how his formulae can be applied to an urban area—*any *urban area. The fact that Manhattan is an island simplified some of the problems and influenced its choice as an example. In the second portion of the study, Constantine Pertzoff collaborated.*



The total stream of traffic has to move people and goods from one place to another speedily. But this primary impulse is counteracted to a degree by the need for safety and economy, which necessitates compromise. In sketches at right, road at lower left is utilized to full capacity. Black rectangles are automobiles, gray areas, "influence spaces" of the cars. The higher speed, the longer the distance (and the influence space) needed between it and the next car ahead. At upper left a car travels dangerously fast around a curve; influence space exceeds distance for unobstructed vision. Center, effect of cutting in and out of line; intersecting roads show uneconomical bunching due to halted traffic.



communities, the whole city is a living organism. Its development is not a sequence of abrupt arbitrary acts of many single individuals but the result of a continuous series of compromises among masses of people whose interests are related. Even if single actions sometimes look like turning points of far-reaching consequence, they can only be productive if they smoothly merge with existing trends. Such trends need not necessarily be accepted as governing and unalterable facts. Being trends of life, they cannot be created, but they may be induced, influenced in direction and intensity, set against each other, favored or repressed, and sometimes even suppressed. This is the scope planned action really has.

Part I: Traffic Design

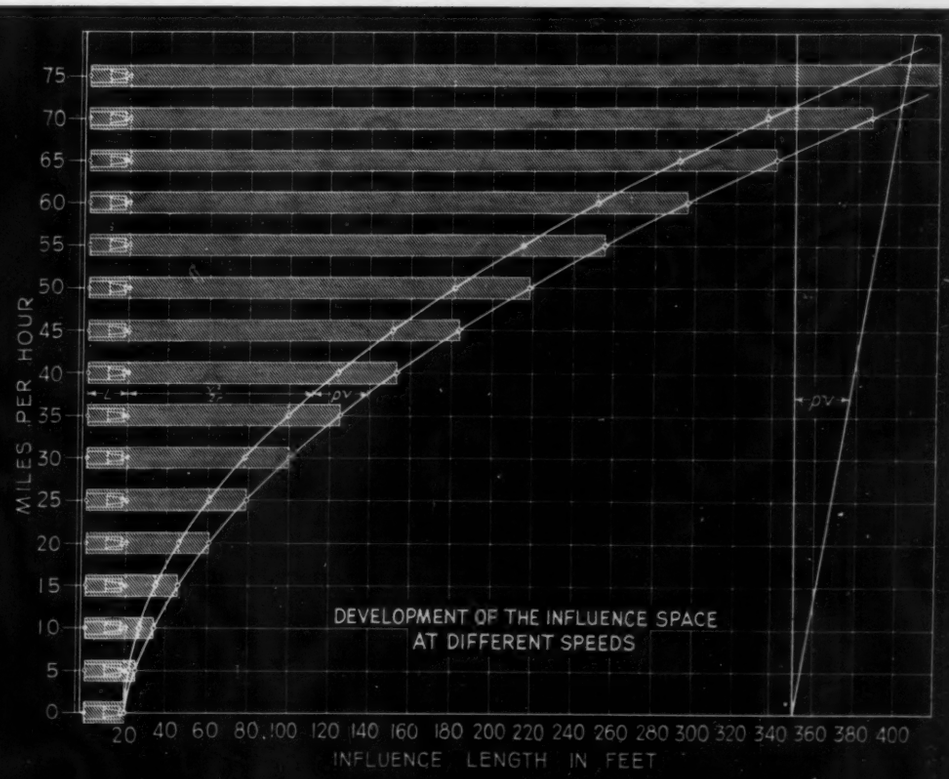
by Herman Herrey and Erna M. J. Herrey

The influence space of vehicles on the road is the empty space required around each vehicle so that it may proceed without interfering with other objects on the road. For practical purposes the influence space has a width equal to the width of one traffic lane; its length, however, increases with the speed of the vehicle. This length is composed of three elements:

A, the distance the vehicle travels from the moment an obstruction is perceived until the driver's reaction is translated into the braking performance of the vehicle. This distance is here called the *perception way* (pv).

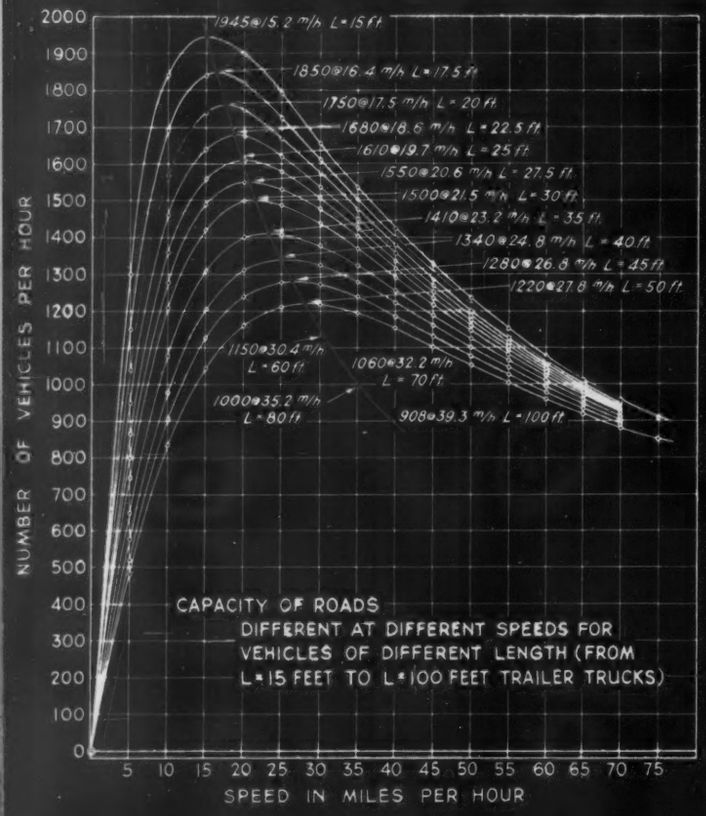
B, the minimum distance required for the vehicle to come to a stop, called *braking way* $\left(\frac{v^2}{2r}\right)$.

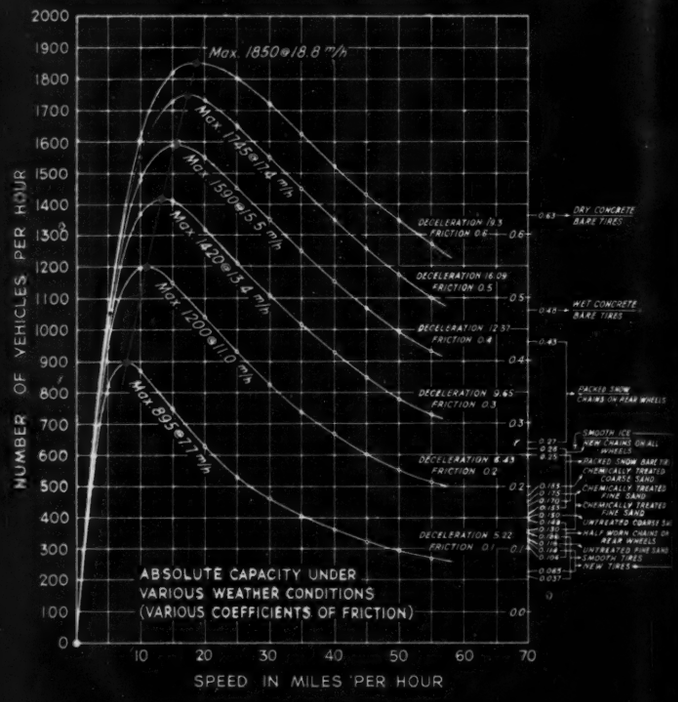
C, the length of the vehicle plus the necessary minimum distance from the preceding vehicle or the obstruction when the vehicle has stopped (*L, for average passenger cars,* 20 ft.).

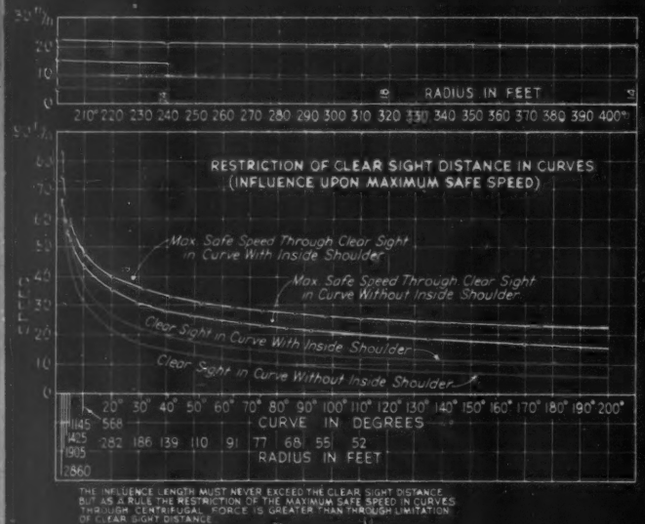


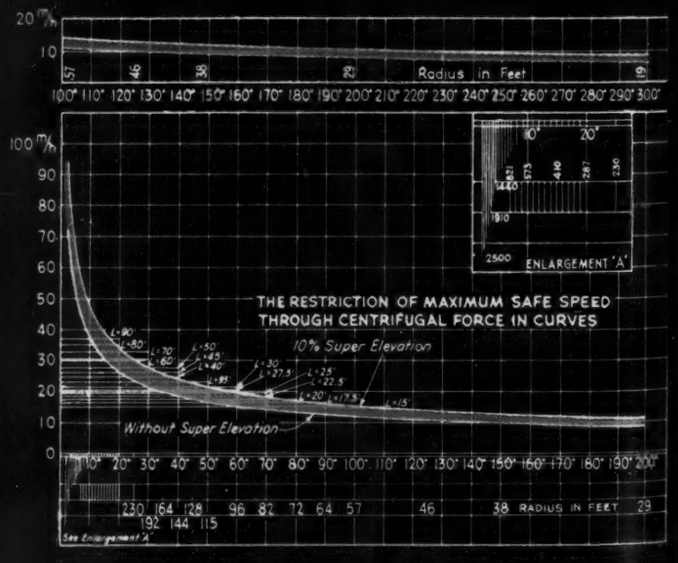
This theory of road or street design is based on the assumption that traffic is made up of moving influence spaces which constitute a continuous stream flowing through the road. Considered as a fluid, the traffic stream is subject to physical laws which can be mathematically interpreted. Analysis has revealed that human operators have little effect on vehicles' performance; only within certain limits can the driver accelerate, retard, or change the course of the vehicle.

Capacity of a road is the number of influence spaces which can pass a given point in an hour. It depends upon physical conditions of the road (width, gradient, kind of surface, curvature, etc.) and on kind, composition, manner of procedure, etc., of traffic. It changes with speed, and has a maximum at a certain set of speeds [called "best speed," $v_0=\sqrt{2rL}$] which varies with road and traffic conditions. **Effect of speed on capacity** is shown in chart at upper left of the four below, for normal weather conditions and various sizes of vehicles. Blue line shows "norm traffic" (normal, vehicle length of 18 ft. plus 2 ft. clearance when stopped), accommodated in greatest quantity at 17.5 miles per hour. **Effect of weather on capacity** is shown in upper right-hand chart, for norm traffic only. Calculations based on experimental values for coefficients of friction in report of Committee on Winter Hazards, National Safety Council, No. 75, November 1940. Red lines on both charts indicate maxima.


NUMBER OF VEHICLES PER HOUR
SPEED IN MILES PER HOUR
1945@15.2 m/h L=15 ft
1850@16.4 m/h L=17.5 ft
1750@17.5 m/h L=20 ft
1680@18.6 m/h L=22.5 ft
1610@19.7 m/h L=25 ft
1550@20.6 m/h L=27.5 ft
1500@21.5 m/h L=30 ft
1410@23.2 m/h L=35 ft
1340@24.8 m/h L=40 ft
1280@26.8 m/h L=45 ft
1220@27.8 m/h L=50 ft
1150@30.4 m/h L=60 ft
1060@32.2 m/h L=70 ft
1000@35.2 m/h L=80 ft
908@39.3 m/h L=100 ft
CAPACITY OF ROADS
DIFFERENT AT DIFFERENT SPEEDS FOR VEHICLES OF DIFFERENT LENGTH (FROM L=15 FEET TO L=100 FEET TRAILER TRUCKS)


NUMBER OF VEHICLES PER HOUR
SPEED IN MILES PER HOUR
Max. 1850@18.8 m/h
Max. 1745@17.4 m/h
Max. 1590@15.5 m/h
Max. 1420@13.4 m/h
Max. 1200@11.0 m/h
Max. 895@7.7 m/h
DECELERATION 19.3 FRICTION 0.6
DECELERATION 16.09 FRICTION 0.5
DECELERATION 12.87 FRICTION 0.4
DECELERATION 9.65 FRICTION 0.3
DECELERATION 6.43 FRICTION 0.2
DECELERATION 5.22 FRICTION 0.1
DRY CONCRETE BARE TIRES
WET CONCRETE BARE TIRES
PACKED SNOW CHAINS ON REAR WHEELS
SMOOTH ICE NEW CHAINS ON ALL WHEELS
PACKED SNOW BARE TIRE CHEMICALLY TREATED COARSE SAND
CHEMICALLY TREATED FINE SAND
UNTREATED COARSE SAND
HALF WORN CHAINS ON REAR WHEELS
UNTREATED FINE SAND
SMOOTH TIRES
NEW TIRES
ABSOLUTE CAPACITY UNDER VARIOUS WEATHER CONDITIONS (VARIOUS COEFFICIENTS OF FRICTION)


RADIUS IN FEET
RESTRICTION OF CLEAR SIGHT DISTANCE IN CURVES (INFLUENCE UPON MAXIMUM SAFE SPEED)
Max. Safe Speed Through Clear Sight in Curve With Inside Shoulder
Max. Safe Speed Through Clear Sight in Curve Without Inside Shoulder
Clear Sight in Curve With Inside Shoulder
Clear Sight in Curve Without Inside Shoulder
CURVE IN DEGREES
RADIUS IN FEET
THE INFLUENCE LENGTH MUST NEVER EXCEED THE CLEAR SIGHT DISTANCE, BUT AS A RULE THE RESTRICTION OF THE MAXIMUM SAFE SPEED IN CURVES THROUGH CENTRIFUGAL FORCE IS GREATER THAN THROUGH LIMITATION OF CLEAR SIGHT DISTANCE


Radius in Feet
THE RESTRICTION OF MAXIMUM SAFE SPEED THROUGH CENTRIFUGAL FORCE IN CURVES
10% Super Elevation
Without Super Elevation
ENLARGEMENT 'A'
AVERAGE DELAY IN SECONDS
REDUCED CAPACITY IN PERCENT OF ABSOLUTE CAPACITY BEFORE INTERSECTION

Design of curves for safety is governed by two principal factors: the distance over which sight around the curve is uninterrupted (clear sight), and the action of centrifugal force on the vehicle. Chart at lower left of the group above shows **effect of clear sight distance** (red) **upon maximum safe speed** (blue), for different degrees (or radii) of curvature. Top portion of chart is a continuation of its right-hand side. Normally **centrifugal force**, shown at lower right, restricts speed automatically before clear sight limits for safety are reached. The chart shows effects of centrifugal force for both level curves and banked, or super-elevated, curves; also, the best speeds, considering capacity of the road, for various kinds of traffic. Thus, for norm traffic (L=20 ft.), speed can be fairly well controlled on curves by designing the curve with a radius of from approximately 77 ft. to 130 ft., depending upon whether or not the curve is banked. Thus curves can be utilized to force traffic to decelerate.

Of all the physical conditions of the road or street itself, **the intersection has been found, after thorough study, to reduce a road's capacity more than any other.** The chart immediately below shows the effect of an intersection where traffic is governed by traffic lights upon the total capacities of both intersecting roads. Figures at right side indicate ratio of total traffic volume for one intersecting road to traffic for the other; scale at bottom, total traffic light cycle time (red plus green) in seconds; scale at left, percent of total absolute capacity of road which the traffic light permits to pass the intersection. Thus, if the light is green 2/5 of the time for one road, because that road has a 40:60 frequency ratio, and at the normal cycle time of 60 seconds, only 33.3%, or 1/3, of the road's absolute capacity can be accommodated by the intersection.

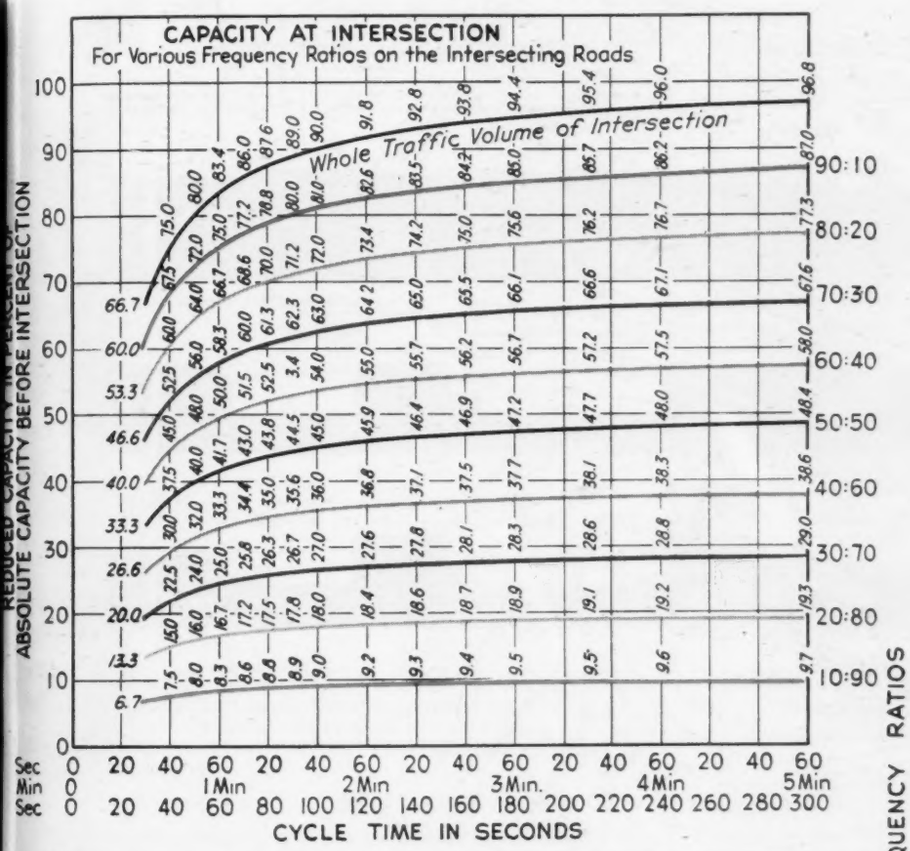
TABLE OF SYMBOLS AND NUMERICAL VALUES USED

		Unit	Numerical Value for Norm Traffic or Normal Conditions
L	Length of vehicle plus minimum distance between stationary vehicles	ft	20 ft
l	Influence length	ft	
w	Width of road	ft	
R	Radius of curve	ft	
t_g	Go-time (green light of traffic signal)	sec	
t_c	Cycle-time	sec	60 sec
ρ	Perception and reaction time	sec	5 sec
v	Speed at any moment	ft/sec	
v_0	Best speed	ft/sec	
r	Maximum deceleration rate	ft/sec²	
g	Acceleration of gravity (32.2)	ft/sec²	
C	Capacity	vehicles/hour	
z	Number of traffic lanes in one direction	—	
μ	Coefficient of friction between road surface and vehicle	—	5/5 x)
F	Coefficient of side friction		4 · 16 xx)
γ	Gradient		
S	Super elevation in %		

x) Compare: 1) Skidding Characteristics of Automobile Tires on Roadway Surfaces, by R. A. Moyer. Bulletin 120, Town Engineering Experiment Station. August 1934

2) Research on Stopping Distance and Brake Condition of Automobiles by E. H. Hamilton. Official Project No. 65-97-158. W. P. A. New York. 1939

xx) For Numerical Values at different speeds compare Safe Side Friction Factors and Super elevation Design, Proc. of 16th annual meeting of Highway Research Board. Washington, D.C. 1936


CAPACITY AT INTERSECTION
For Various Frequency Ratios on the Intersecting Roads
Whole Traffic Volume of Intersection
REDUCED CAPACITY IN PERCENTS OF ABSOLUTE CAPACITY BEFORE INTERSECTION
FREQUENCY RATIOS
90:10
80:20
70:30
60:40
50:50
40:60
30:70
20:80
10:90
Sec 0 20 40 60 20 40 60 20 40 60 20 40 60 20 40 60 20 40 60
Min 0 1 Min 2 Min 3 Min. 4 Min 5 Min
Sec 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300
CYCLE TIME IN SECONDS

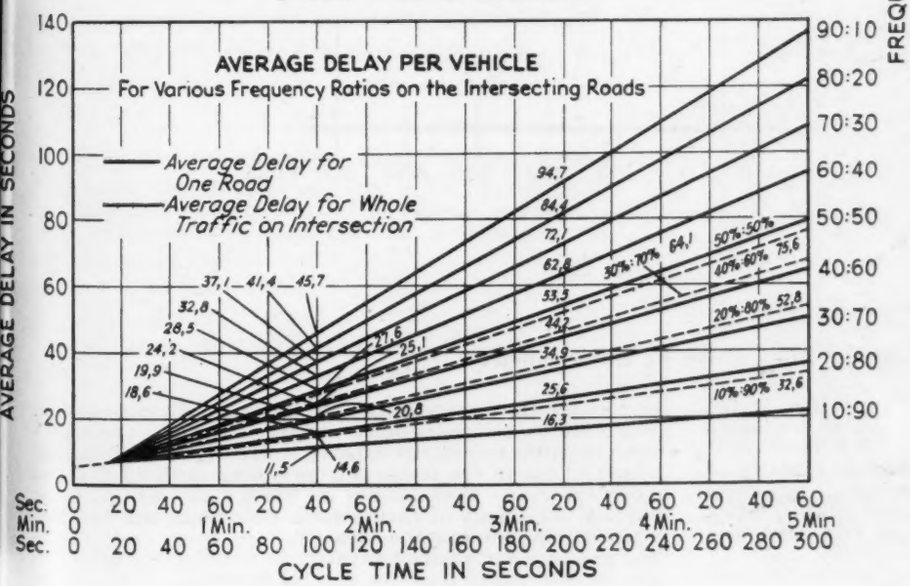
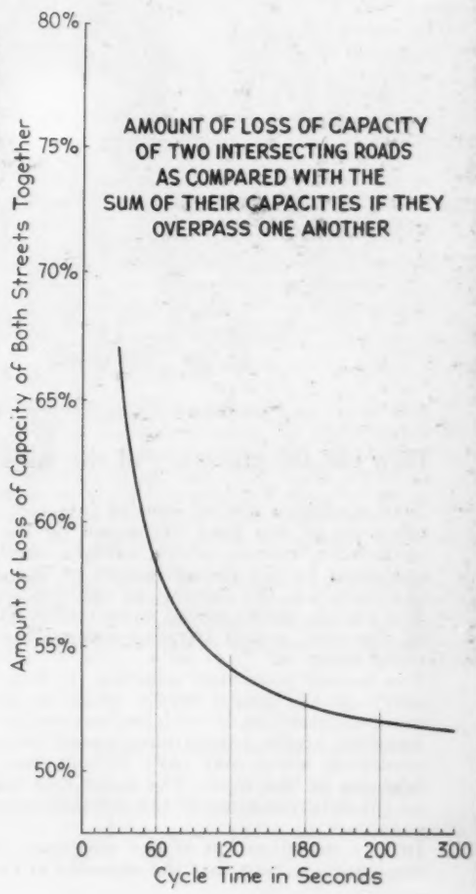
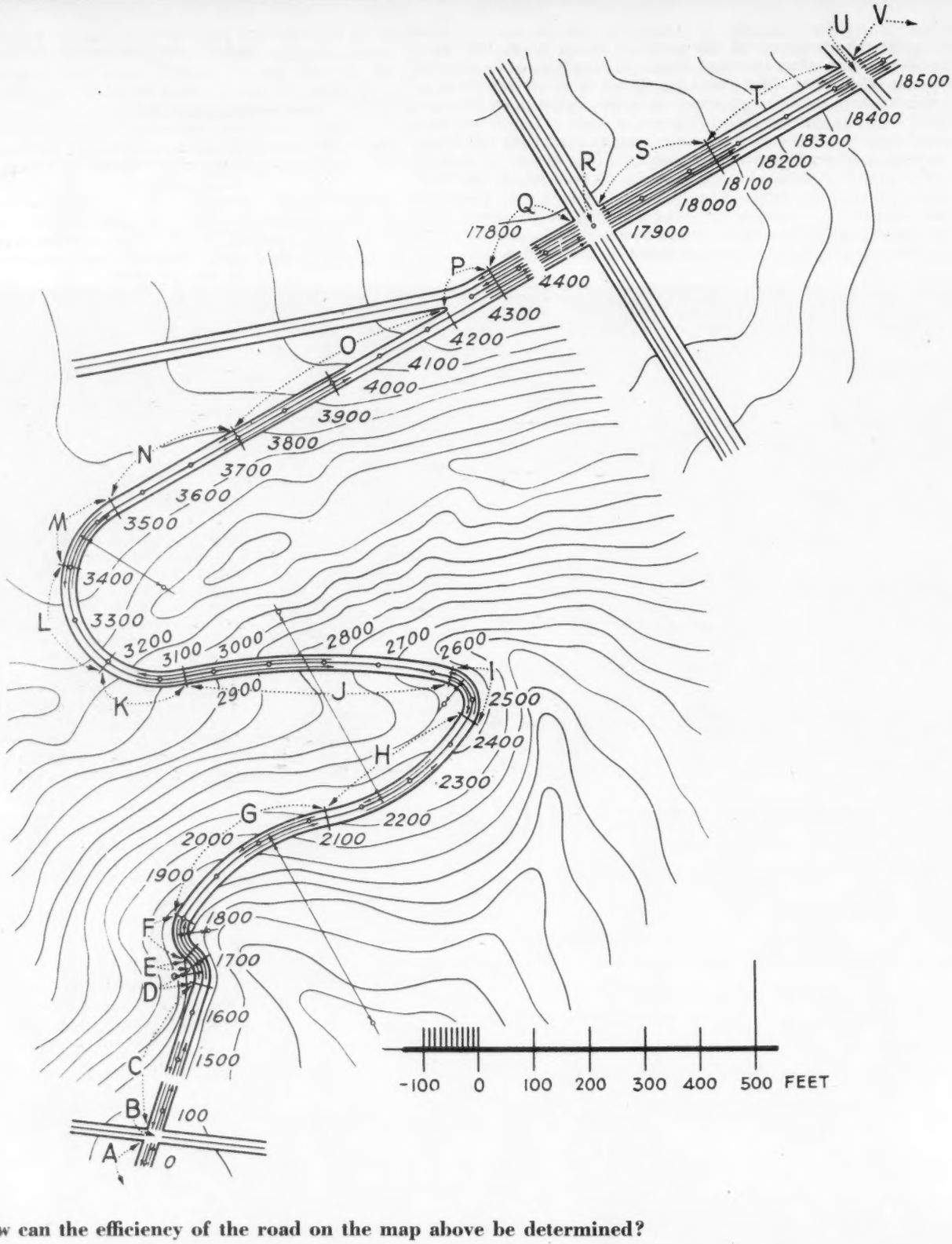

AVERAGE DELAY PER VEHICLE
For Various Frequency Ratios on the Intersecting Roads
Average Delay for One Road
Average Delay for Whole Traffic on Intersection
AVERAGE DELAY IN SECONDS
FREQUENCY RATIOS
90:10
80:20
70:30
60:40
50:50
40:60
30:70
20:80
10:90
Sec. 0 20 40 60 20 40 60 20 40 60 20 40 60 20 40 60 20 40 60
Min. 0 1 Min. 2 Min. 3 Min. 4 Min. 5 Min
Sec. 0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300
CYCLE TIME IN SECONDS

Chart above shows average delay per vehicle for various cycle times and frequency ratios. Chart at right indicates the loss on both roads when they intersect, compared with their total capacity if one overpasses the other. If the cycle time is 60 seconds, only approximately 41% of the sum of their potential (absolute) capacities can be accommodated by the intersection, 59% is lost.

At any given point, a road may have a certain **absolute capacity,** determinable from the charts on the preceding page and other factors. But the road is not uniform; at one or several points its absolute capacity may be drastically reduced, as at an intersection; and because, obviously, a road never has a greater capacity than its least efficient section, and topographic reasons, composition of traffic, etc., usually make it impossible to raise all sections of a road to exactly equal efficiency, absolute capacity can seldom be attained.


AMOUNT OF LOSS OF CAPACITY OF TWO INTERSECTING ROADS AS COMPARED WITH THE SUM OF THEIR CAPACITIES IF THEY OVERPASS ONE ANOTHER
Amount of Loss of Capacity of Both Streets Together
80%
75%
70%
65%
60%
55%
50%
0 60 120 180 200 300
Cycle Time in Seconds



How can the efficiency of the road on the map above be determined?

Two questions are of special interest: First: How is the efficiency of the road influenced by its physical conditions (gradients, curves, width, surface, etc.)? This question is answered by the determination of the **absolute capacity** of the road, i.e., the number of vehicles per hour it can carry of a certain standardized norm traffic. It represents a rating of the road which permits comparison of this road with other roads.

The second important question is: How much can the road carry of the actual traffic which is using it, taking into account condition of vehicles, composition and kind of traffic, weather, traffic regulations, speed limits, etc.; i.e., all the conditions which may vary without change in the structural features of the road. The answer to this question is given by the determination of the **relative capacity of the road** for each case.

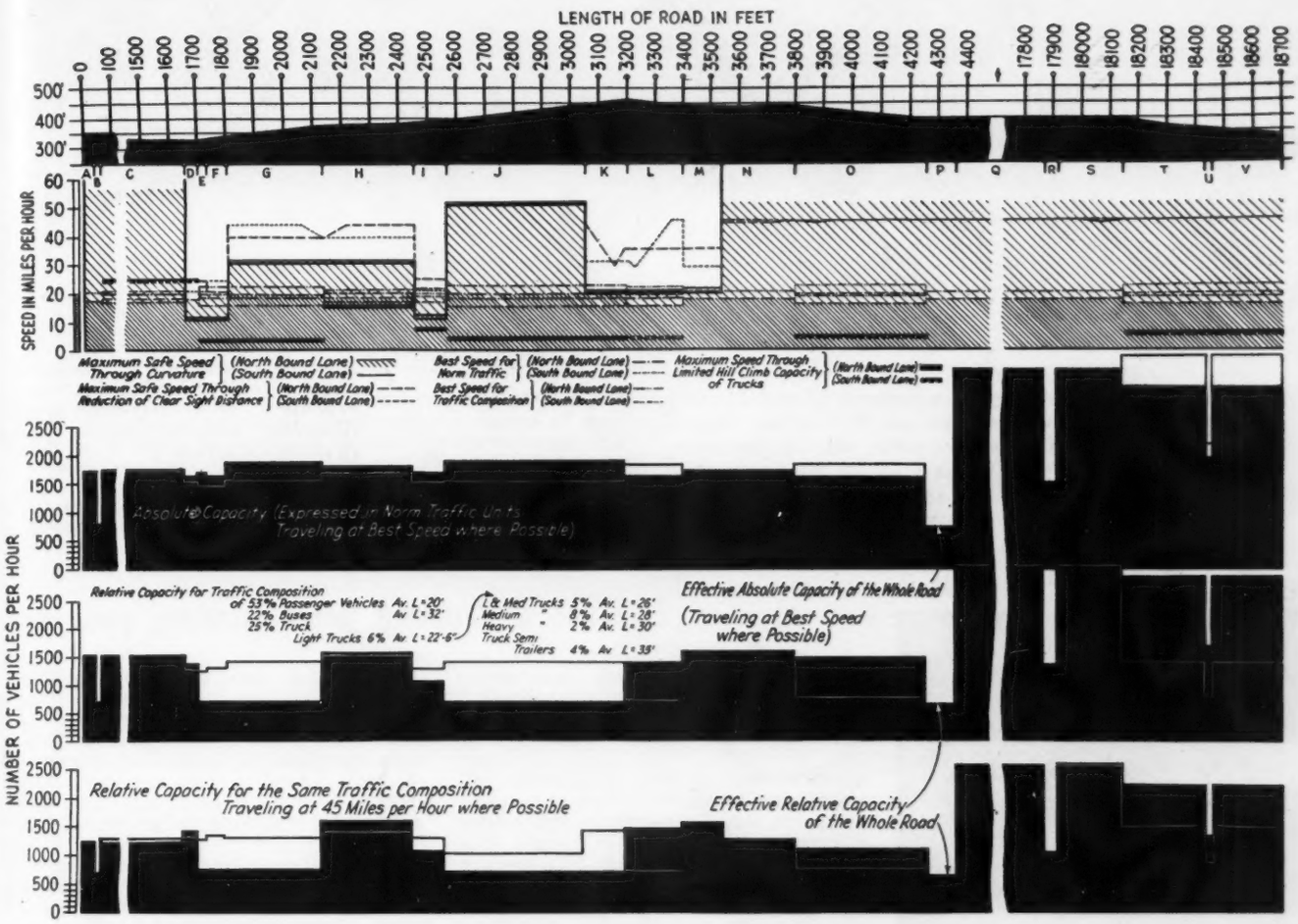
In any investigation of the efficiency of a road it is most important to note that **the capacity of the whole road cannot be greater than the capacity of its least efficient section.** Therefore we divide the road into sections which are homogeneous with respect to capacity, starting a new section whenever one of the features determining capacity changes along the road. Then follows an exact specification of the physical conditions of each section comprising all features which might influence the capacity.

The absolute and relative capacity in vehicles per hour can now be determined from the general formula,

$$C = \frac{3600\ z\ v}{L + pv + \frac{v^2}{2r}}$$

substituting for the constants the proper values pertaining to each section and to the norm traffic for the absolute capacity.

As an example, we show the determination of absolute and relative capacity in the northward lanes of sections **J** and **R**.


LENGTH OF ROAD IN FEET
SPEED IN MILES PER HOUR
NUMBER OF VEHICLES PER HOUR
Absolute Capacity (Expressed in Norm Traffic Units Traveling at Best Speed where Possible)
Relative Capacity for Traffic Composition of 53% Passenger Vehicles 22% Buses 25% Truck
Light Trucks 6%
L & Med Trucks 5%
Medium " 8%
Heavy " 2%
Truck Semi Trailers 4%
Effective Absolute Capacity of the Whole Road (Traveling at Best Speed where Possible)
Relative Capacity for the Same Traffic Composition Traveling at 45 Miles per Hour where Possible
Effective Relative Capacity of the Whole Road

In section **J** the number of lanes is z=1. The maximum deceleration rate **r** is greater than its normal value because of the upward gradient. Maximum deceleration rate equals acceleration of gravity times (coefficient of friction plus gradient ratio):

$$32.2\ (.515 + .12) = 20.4\ \text{ft/sec}^2$$

The maximum safe speed in this section is calculated from the formula for maximum safe speed in curves:

$$v = \sqrt{Rg\ (F + S)} = 57.7\ \text{ft/sec}$$

It is greater than the best speed

$$v_o = \sqrt{2rL} = 19.4\ \text{ft/sec}$$

i.e., the speed for which the capacity becomes a maximum.

Therefore, the **absolute capacity** in this section is not decreased by the curve and the best speed v_o=19.4 ft/sec is to be substituted for v in the capacity formula.

Absolute capacity:

Section **J**, northward lane:

$$C = \frac{3600 \times 2 \times 19.4}{20 + .5 \times 19.4 + \frac{(19.4)^2}{2 \times 20.4}} = 1890\ \text{vehicles/hour.}$$

In order to calculate the **relative capacity**, we have to note that for the actual traffic composition on the road the average vehicle length is greater than for the norm traffic:

$$L = 27\ \text{ft.}$$

Therefore, also the best speed,

$$V_o = \sqrt{2rL} = 22.6\ \text{ft/sec,}$$

is slightly greater. The maximum safe speed is the same as before. But, due to the limited hill climbing ability of the trucks present, the actually attainable speed is far less, only 4 mi/hr on the 12% grade. Therefore now,

$$v = 4\ \text{mi/hr} = 5.7\ \text{ft/sec,}$$

is the speed value to be substituted in the formula, making the relative capacity equal to only 675 vehicles per hour on the upward grade of section **J**.

On the downward grade, where speed is not limited by truck performance, the best speed is used in the formula and the relative capacity becomes 1400 vehicles per hour.

The relative capacity at 45 mi/hr on the upward grade of section **J** is also equal to 675 vehicles per hour because here the speed cannot be higher than 4 mi/hr. On the downward grade, however, the relative capacity is decreased from 1400 to 1020 vehicles per hour if the vehicles travel at 45 mi/hr instead of best speed (substitute v = 45 mi/hr = 66 ft/sec in the formula for C).

For section **R** (straight level intersection) we first determine absolute and relative capacity as if there were no intersection substituting the respective best speeds V_o = 16.6 ft/sec, and V_o = 17.5 ft/sec in the formula for C (as there are no speed limitations on straight, level road sections). Of this traffic, however, only a certain percentage will be discharged, this percentage being given by

$$\frac{t_g}{t_c} \times 100.$$

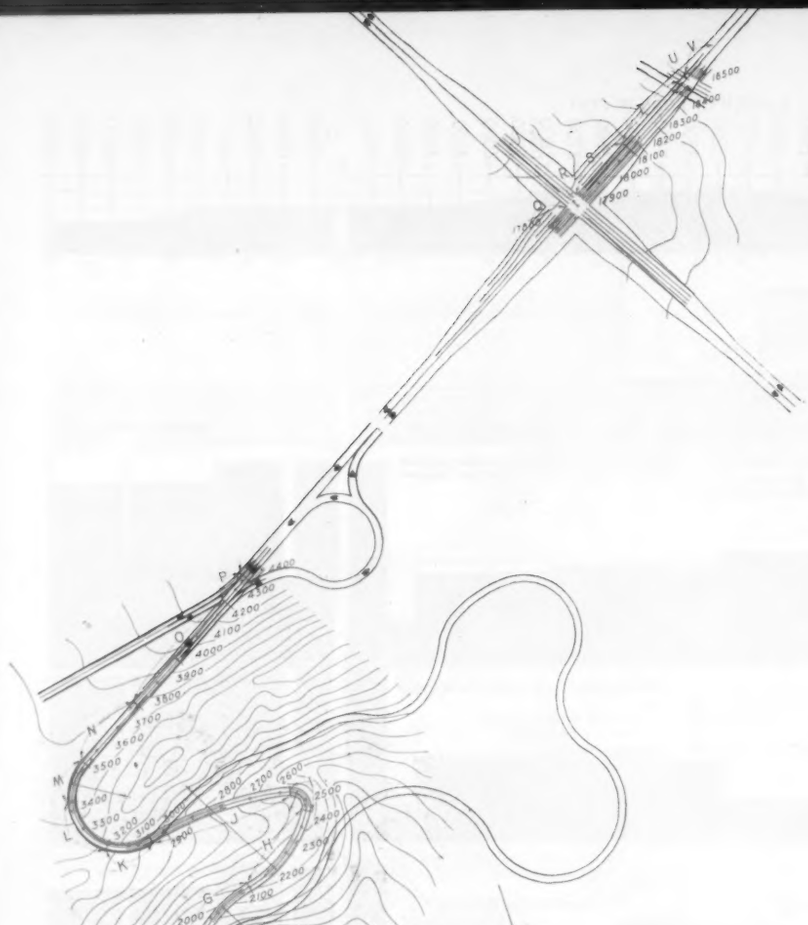
For absolute capacity the standard cycle time is t_c = 60 sec. The most favorable go-time is calculated on the assumption that the frequency per lane is the same on both intersecting roads. Then the frequency ratio, and therefore also the most favorable go-time ratio, is equal to the ratio of lanes on the two roads. In section **R**, where both roads have two lanes in each direction, the go-times must be equal.

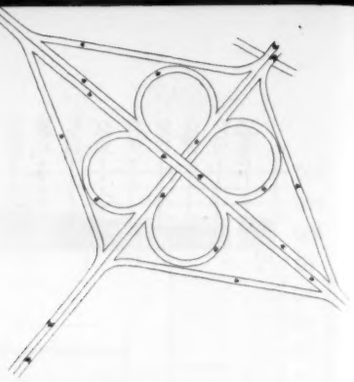
They are, however, less than half the cycle time, as, at the change of signals, both roads have to be closed for a short time depending on the width of the roads (here 5 sec.). Thus the go-time is 25 sec. and the traffic discharged through the intersection is

$$\frac{t_g}{t_c} \times 100 = \frac{25}{60} \times 100 = 41.7\%$$

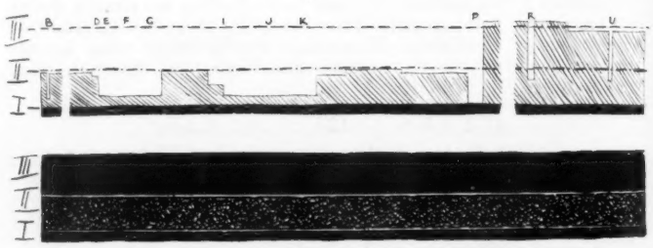
Absolute capacity, 41.7% of 3500 = 1460 vehicles per hour.

If the actual go- and cycle-time is also 25 and 60 seconds: Relative capacity, 41.7% of 3120 = 1300 vehicles per hour. The relative capacity at 45 mi/hr is the same, as the speed is limited by the intersection.





2 *Another solution at R: cloverleaf, very wasteful of land and extremely expensive, is nevertheless typical American solution—seldom found in other countries.*



1 *Diagram above shows improvement methods first proposed in text; all except overpass at B are inexpedient. Better solution from B to P, below, shows extra lanes for trucks climbing hills, small radius curve at P for limited traffic into side road.*

If we wish to improve this highway we must consider the relative capacity diagram (uppermost of the two sketches at right, immediately above).

The diagram for two thirds of the distance is only about half as high as for the remaining third, from P to U. This is due to the highway having only two lanes first, and four lanes later, after it joined with another highway at P. There are a number of deep cuts in capacity at B, P, R, and U, due to intersections and a junction. There are three lesser but wide depressions at E-F-G, I, and J-K where steeper gradients occur which trucks can climb only at very low speeds, and a few minor depressions where narrow curves reduce speed below that necessary for the highest relative capacity. The lowest capacity, at P, determines the relative capacity of the whole highway; no more vehicles can pass through the highway, at least from B to P, than can pass through that bottleneck.

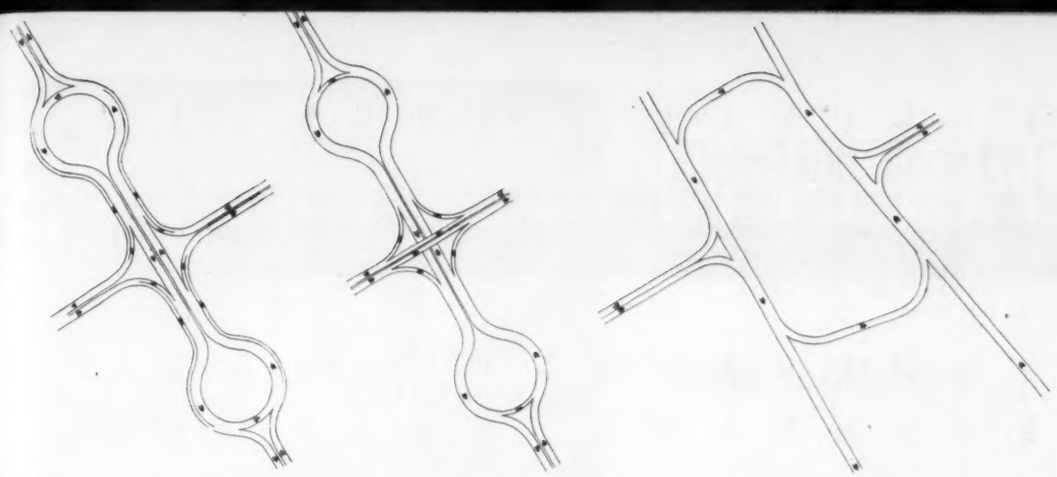
Our task in improving this highway would be to shift line I at least to level II, and if possible further to level III, and so that we get a more or less uniform capacity diagram with no cuts, as shown in the lower diagram above.

Intersections are the worst points. We may find that traffic turning into our highway from the intersecting road at B is so negligible that we can simply make an overpass.

At point U we may find that for the time being the traffic carried by the intersecting cross street is not yet important enough to warrant greater expense than necessary for an overpass, because traffic intending to get on our highway can be expected to use intersection R.

Capacity at intersection R could be multiplied by simple, comparatively inexpensive widening, though this would not do away with other drawbacks of the intersection and traffic there would become more complicated, confusing, and less safe. The junction at P could be solved through the construction shown above, allowing northbound vehicles to turn into the other highway with undiminished speed, which might not be necessary if traffic that way is unimportant. In this case the large circle might be too expensive. Another layout of the road sections from D to K could reduce gradients so that trucks would not obstruct other traffic, and curves would be straightened.

But all these means are expensive or imperfect. Better solutions are for the curves and gradients at left, providing a third lane for trucks where traffic is ascending, and curves allowing the speed at which relative capacity is the highest. The solution for the junction can be simple enough if the little traffic turning west from either of the joining highways can be expected to slow down to 5 m/h.



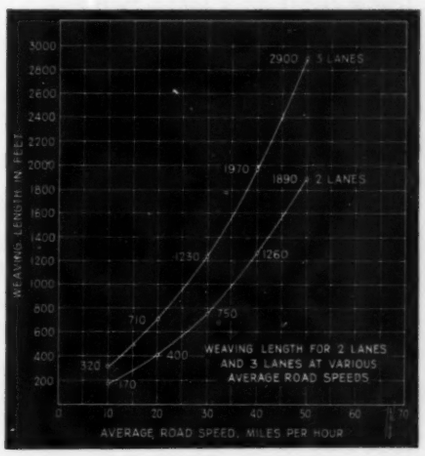
3 *Three successively better solutions for intersection R: left and center, principal requirement is curves of sufficient radius to permit speed suitable for highest capacity considering kind of traffic; these and Fig. 2 require more space, or too complicated a grade separation, than is economically justified, particularly in urban areas, where greatest traffic volume exists. At right is another, usually better solution; combining two neighboring highways or streets, making both one way, requiring traffic to "weave" from one into the other and back to its original route. Utility of land can be retained, but delay due to longer distance traveled must be reasonable in comparison to delay at original intersection.*

Determining Lengths of Weaving Sections

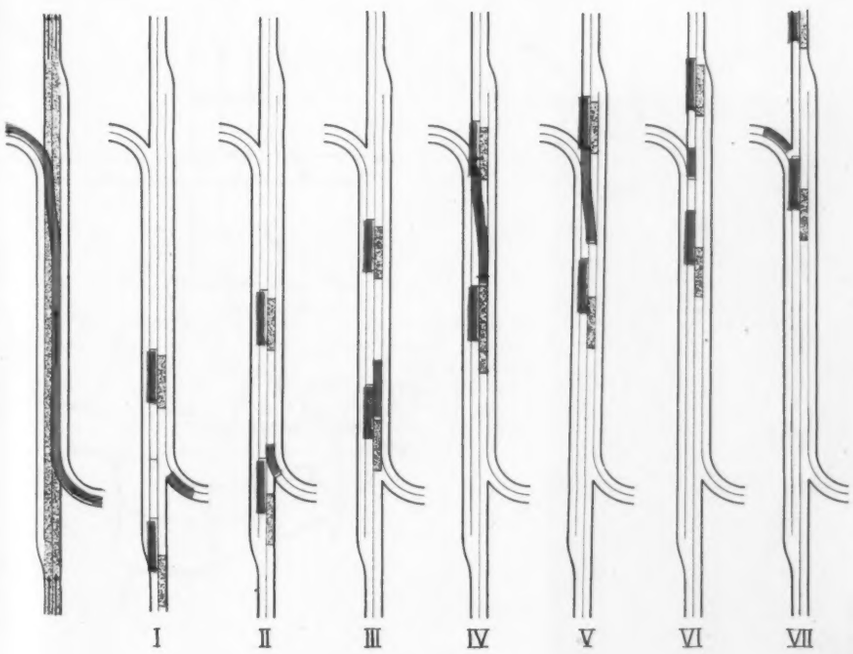
Left-hand diagram below shows, in red, path of car weaving into highway from lower right, out at upper left. The most unfavorable situation is chosen in order to arrive at minimum safe dimensions for weaving length. Remaining diagrams show successive stages, and below right, graphic presentation of formulae.

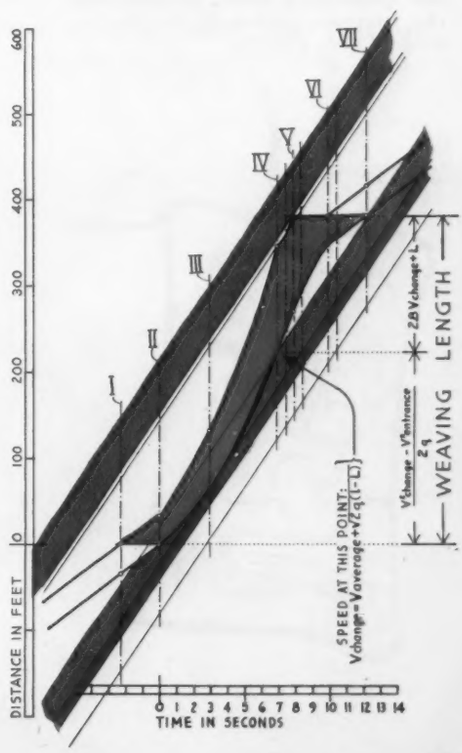
Stage I, red car about to enter highway at maximum safe speed allowed by the entrance curve (in this case, 10 mi/hr.) Stage II, red car has entered, begins to accelerate to average speed of vehicles on highway (in this case, 20 mi/hr.) Stage III, red car reaches 20 mi/hr., and is parallel to, but just ahead of, the blue car in the next lane. The red car could slow down, let the blue car pass, then turn into the next lane; but the driver chooses to pass the blue car and turn in ahead of it, as shown in Stage IV. In Stage V, the red car, safely past, decelerates; in Stage VI, it decelerates still further in order to be able to make the turn off the highway safely. Stage VII shows it off the highway.

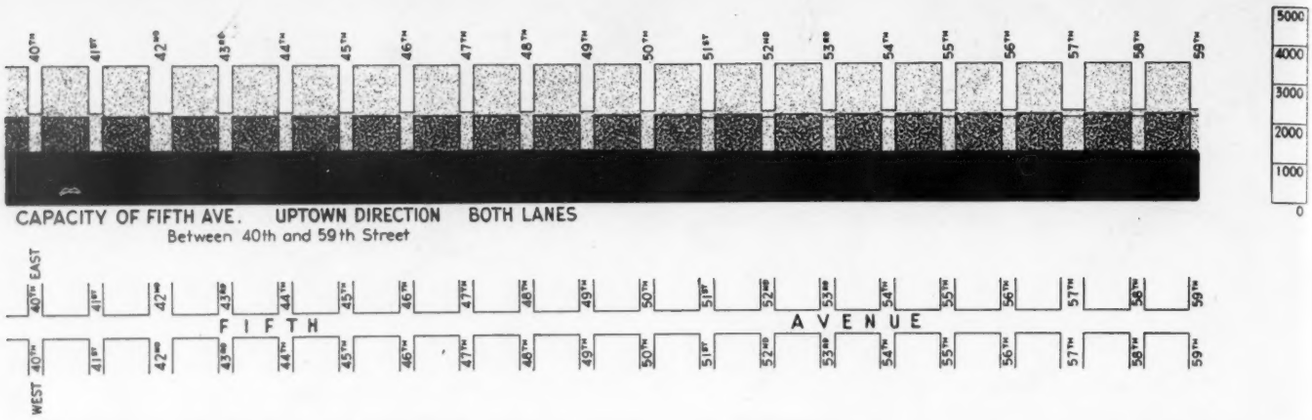
The weaving section is demonstrably superior to our conventional signal-controlled intersection: it has a considerably higher capacity; traffic proceeds without full stops and with minimum delays—and, most particularly, traffic adjusts itself, according to its volume, elastically. Traffic is automatically equalized. It is necessary only to compare this characteristic with the rigid sequence of traffic cycles at a controlled intersection, where traffic is periodically halted regardless of the amount the intersecting road carries. However, it should be remembered that the weaving section can be used only with one-way roads or streets, or divided highways (essentially the same thing.)



For convenience, the above chart may be used to determine weaving lengths necessary for two—or three-lane highways.







What intersections do to traffic on a city street is demonstrated by the above traffic capacity diagram for Fifth Avenue, New York City, between 40th and 59th Streets. Of a total potential capacity of nearly 4000 vehicles per hour, only slightly over 1000 per hour remains when traffic lights have taken their toll.

* * *

Below, at left, a neighborhood with a one-way circumferential traffic loop, maximum circumference equal to 5 minutes' traveling time; interior free of traffic, serviced by interior cul-de-sac feeders. Center, similar neighborhoods regularized, organized to fit an urban gridiron street pattern, and arranged along a ring road or divided highway. Right, many such units, regular and irregular, combined to serve a city. In a future issue Mr. Herrey will point out how a fraction of a typical city's streets could be made to carry a greater traffic volume than the whole system now does—and with greater economy, safety, and speed—as a means of achieving the purposes stated at the beginning of this article.

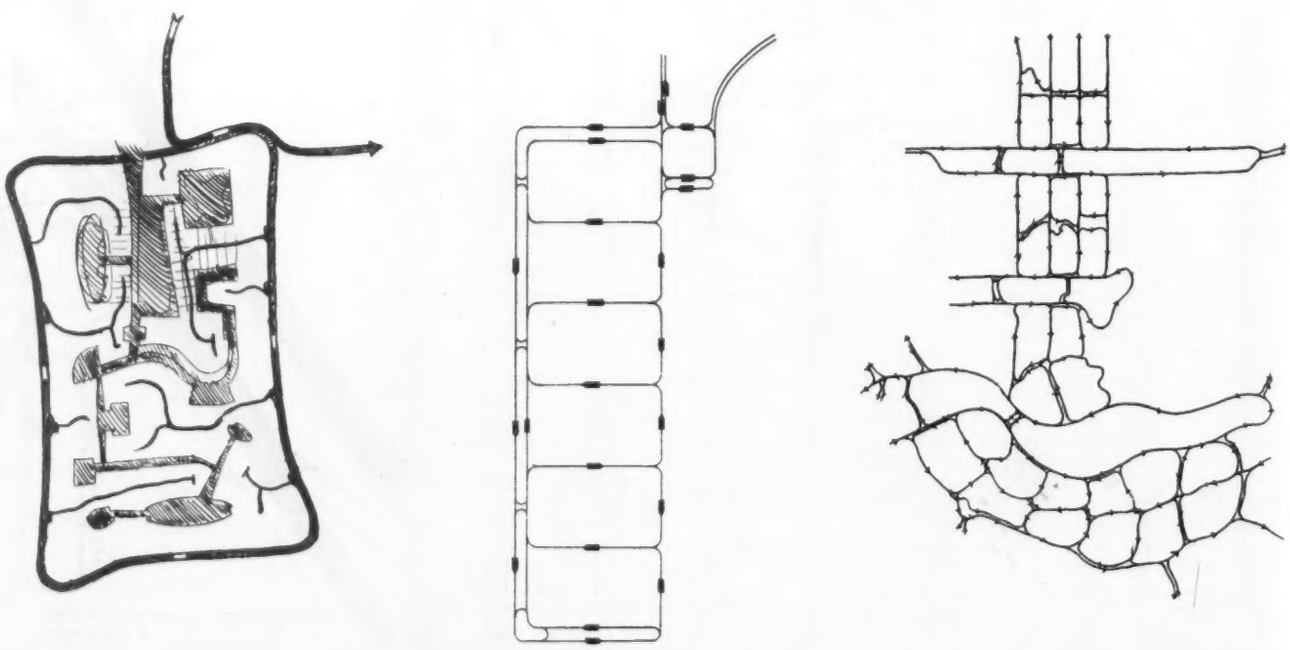
At the end of the last war in only a few cities was the density of traffic so great that obligatory driving on the right hand side of the street had to be enforced. In many large cities, horse-drawn carriages were still in abundance, and everybody drove carriages or automobiles wherever there was space or where he wanted to go. With increasing traffic, stricter organization and enforcement of right-hand driving became a necessity. In the same way, I expect that sooner or later, perhaps in a few years, it will be a matter of course that a street can only be used **one way**, unless the two directions are so clearly separated (as Park Avenue, New York,) that for all practical purposes they amount to two separate streets. Two-way roads, such as the avenues in Manhattan, are grossly wasteful and dangerous. Probably in a few years, when misconceived commercial objections are silenced by a realization of true commercial advantages, we will ask ourselves why we once tolerated drawbacks which could have been remedied with comparative ease.

* * *

A street system organized according to the **principle of circumferential traffic** consists of series of one-way loops of a maximum circumference of five minutes travelling time. Therefore these loops increase in size with the average speed admissible in the circumstances of the district concerned. The area within these loops is in built-up places the single settlement units, untraversed by any traffic arteries but containing where necessary, cul-de-sac feeders of 900 feet maximum length.

The loops, organized in rows along interior or exterior **Ring Roads**, are connected with each other through weaving ways excluding all intersections. In such a system no two-way roads nor intersections or grade-separations are required. Any existing highway network can be converted to circumferential traffic without considerable structural changes. In most cases a high percentage, sometimes over 40% of the existing street system, would become superfluous, because the remaining streets carry a larger traffic volume more economically, more safely, and with a greater speed.

We can safely say that generally our cities are grossly overbuilt as regards streets, and with a more sensible use of the existing street system more can be achieved, its cost can be reduced, and high valued land set free to become valuable economic and legal tools for replanning.

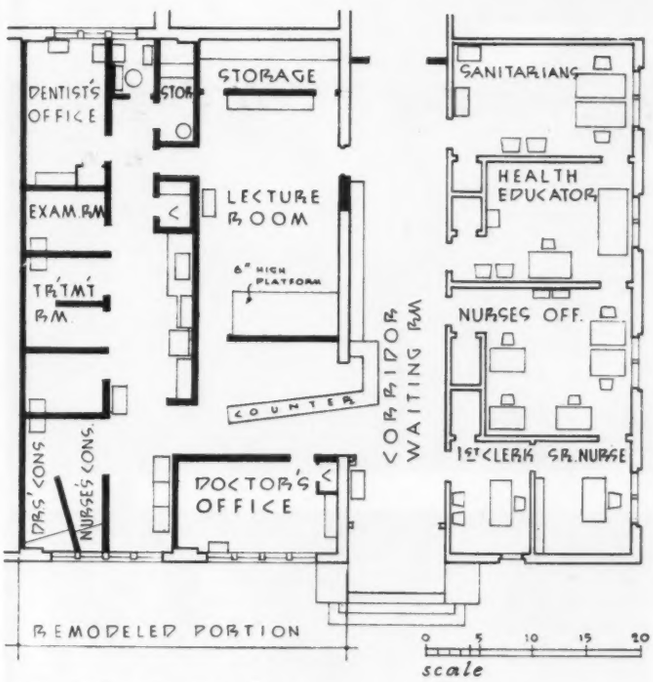


Photos by William G. Parr

Cleveland County Health Department

Norman, Oklahoma

Henry L. Kamphoefner, A.I.A., Architect



FLOOR PLAN

The problem was to provide practically double the existing space for health offices, all within set limits available in an old building. Although assigned to new uses, the existing quarters remained as they were, except for a new coat of paint. The new offices, located in a space that formerly was a community hall, were laid out from scratch.

Health needs of Cleveland County had increased many fold in recent years. War projects upped the County's population from 27,728 in 1940 to 31,028 in 1943. Some 20,000 sailors are stationed at nearby Navy bases. As soon as funds were granted for expansion of health facilities, the plans were drawn and the contract let. Work started in the middle of July and was completed 10 weeks later.

In this remodeled area, the 14-foot ceilings of the old hall were lowered to 9 feet; windows were lowered and widened. The bare cement floor was covered with asphalt tile. Otherwise, changes involved only placement of partitions and installation of equipment. Cost of general construction came to slightly more than $7,000.

The in-sloping face of the reception desk is surfaced with ¾-in. tongue and groove strips, vertically applied; the counter top is ¾-in. plywood. Under the counter top, along the entire interior face of the desk, is a shelf that helps keep the work surface clear of miscellaneous accumulations.

This photograph of the lecture room was taken before chairs were installed. On X-ray clinic days or times for other special types of examination, the room is cleared and folding screens are set up within the space to form a series of individual dressing rooms.

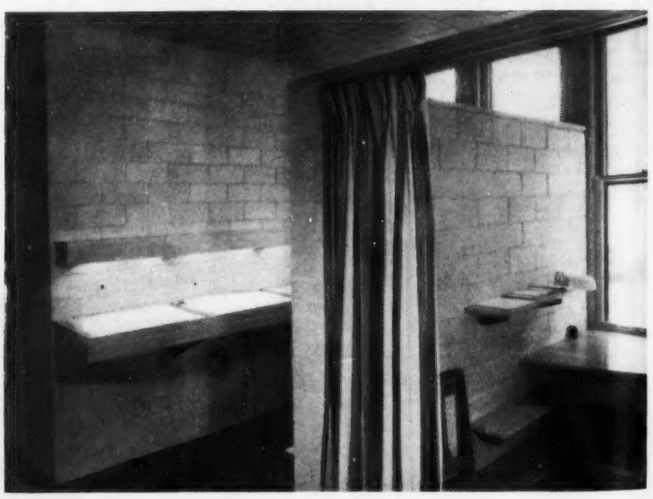
The doctor's office

In order to keep carpentry at a minimum, at the recommendation of WPB, smooth-finish hollow tile was used for walls and partitions. All mouldings and finish detail were eliminated. Most of the lighting is concealed, thus avoiding use of expensive—and scarce—metal fixtures.

A definite limitation existed in the fact that comparatively little of the enclosing wall area is along the exterior of the building; hence extreme care had to be exercised in selecting for these interior locations areas which would suffer least from lack of direct outside light.

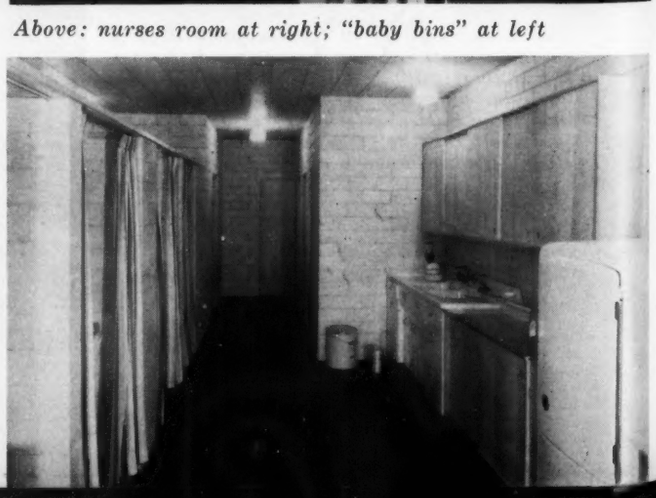
The oblique partition between nurse's and doctor's consultation rooms was worked out to handle the special function of each space. Included in centrally located reception desk and waiting room area is space for the office files, accessible to all concerned. The lecture hall has an opening for a projector, operated from the supply room. Blackboard, bulletin board, projection screen, and speaker's platform are integral parts of the room design.

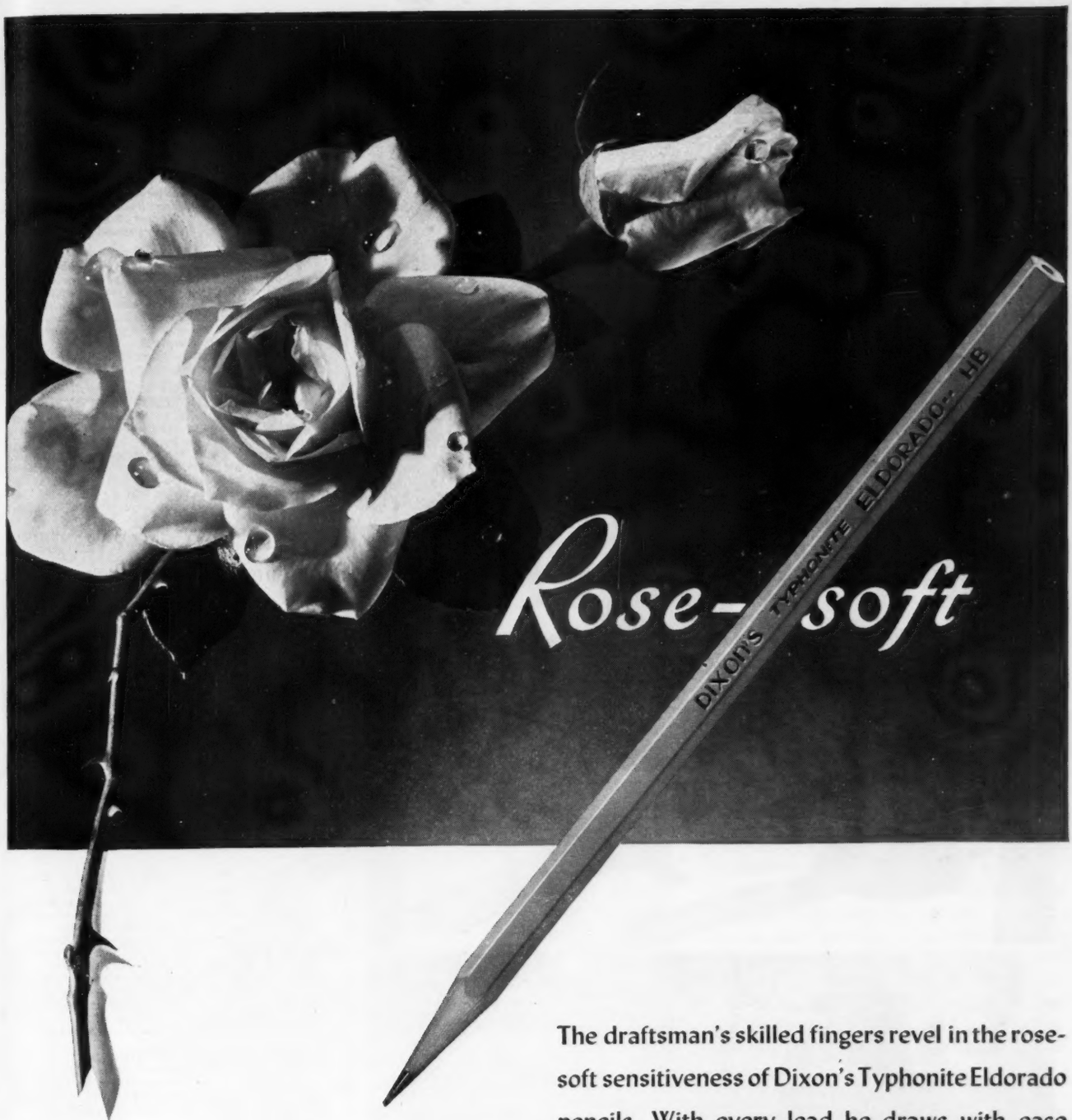
This lecture hall is a room of many uses. One afternoon a week, a maternity class meets here; on infant, preschool, and general clinic days, demonstrations and films are shown. It also serves as a meeting place for various health committees.



Above: nurses room at right; "baby bins" at left

General work space





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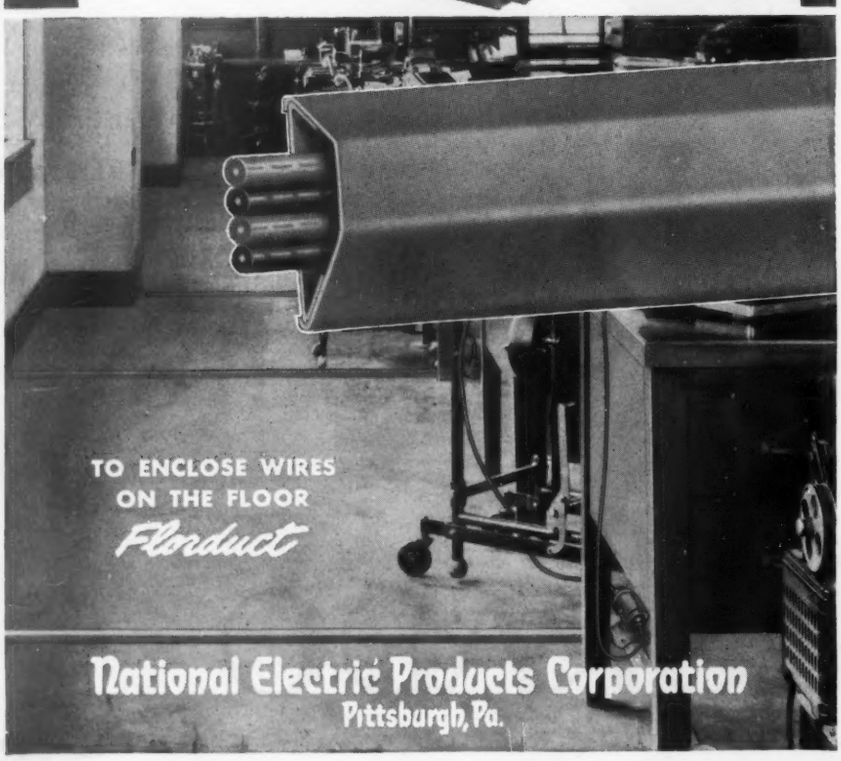

Toward a Green and Pleasant England?

(Continued from page 78)

emphasizes the need for decentralization of industry, and outright nationalization of the land.

Town and Country Planning Association *(in addition to their magazine):*

REPLANNING BRITAIN, Faber and Faber. A report, edited by F. E. Towndrow, of a 1941 Conference at Oxford intended to consolidate policies based on the Barlow proposals. Arguments as to the relative claims on the land of agriculture and urban decentralization were largely unresolved, but leaders on both sides (notably Sir Ernest Simon) pressed the case for land nationalization.

INDUSTRY AND RURAL LIFE, Faber and Faber. A report edited by H. Bryant Newbold on another conference of highly literate notables, at Cambridge in 1942. Very sharp and interesting arguments on all basic rural and urban issues, again with emphasis on public land ownership, leading to a comment by Osborn that "national statesmanship might be expected to follow the hallowed British practice of pursuing all the policies together."

PLANNING AND THE COUNTRYSIDE, edited by F. J. Osborn, #8 in the Faber and Faber pamphlet series, 1942. The evidence presented to the Scott Committee by the TCPA, based on the principle that "exclusive attention to productivity, to the disregard of basic living conditions, would be putting the cart before the horse — repeating in fact the mistake of the industrial revolution." Includes specific recommendations for the size, location and organization of new towns to receive the overflow of population and industry.

REGIONALISM AND REGIONAL PLANNING

1940 Council, *GROUND PLAN OF BRITAIN. Fourteen maps, prepared in cooperation with the Association for Planning and Regional Reconstruction and published in 1942, "illustrative of the physical features and population trends which form some of the survey on which to base a National Plan." (There has been as yet no official study of national resources in Britain comparable to that initiated by our late NRPB).*

Association for Planning and Regional Reconstruction *has revived somewhat the planning tradition stemming from Patrick Geddes, started a School, and published a number of studies on subjects ranging from THE DELIMITATION OF REGIONS to THE COUNTRY KITCHEN. It carefully defines "planning" as "the intelligent use by a free community of its environment, for the common good of its neighbors, its successors and itself."*

Escritt, L. B., *REGIONAL PLANNING, Allen and Unwin, 1943. This book, "an outline of the scientific data relating to planning in Great Britain," by a civil engineer, starts off well with a definition of the difference between "architectural planning" as fathered in England by Sir Raymond Unwin, and "scientific planning" based on resource analysis, neglected since Geddes, and outlines a careful procedure for making a Regional Survey. When he unavoidably comes to non-engineering issues, however, the author is more half-baked than most architects . . . and a great deal more so than Geddes would ever have been.*

Fabian Society, *REGIONAL GOVERNMENT, Research Series #63. Proposes Regional Planning Commissions made up of elected local Councillors plus regional representatives of the various national Departments concerned.*

Housing and Planning News Bulletin. *This organ of the National Housing and Town Planning Council contains frequent reference to the movement for local government reorganization to permit Regional administration, for planning purposes at least, on a democratic basis.*

PLANS FOR LONDON AND OTHER LOCALITIES

Abercrombie and Forshaw, *COUNTY OF LONDON PLAN, Macmillan, 1943. The 20th century's outstanding city-plan, whether or not one agrees with every detail or premise. By wholesale reconstruction (using bombed areas only as an emergency starting-point) and a bold new system of highways and connecting park areas, it seeks to revive and integrate on modern terms the original communities which melted together to make up sprawling present-day London. Although it proposes with unique objectivity to remove 500,000 people and proportionate industry from congested central districts, many critics feel that the figure should and will be much higher, with or without a plan.*

YOUR LONDON HAS A PLAN, issued by the Association of Building Technicians, is an excellent popular leaflet summarizing the County Plan and urging that it be adopted in principle, leaving arguments on details to a later date.

(Continued on page 100)

Post-War Formica

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Toward a Green and Pleasant England?

(Continued from page 94)

***MARS* (Modern Architectural Research Society),** *A MASTER PLAN FOR LONDON,* Architectural Review, *June, 1942. Analysed and described by Arthur Korn and Felix J. Samuely. This ingenious schematic proposal endeavors to justify and rationalize Metropolis per se as a single, continuous, and infinitely expansible organism (that is, without breaking it down into self-contained satellites and using open space to delimit growth — Garden City principles which, to MARS, represent retardataire "village ideology"). A linear fish-skeleton plan for built-up areas uses the Thames industrial-commercial area for backbone, and extends residential districts sidewise in narrow ribs separated by ribbons of farm and parkland. The principle that huge centralized cities are still potentially advantageous is at least debatable, but the basic assumption that most Londoners will want to live in tall highly serviced apartments warrants, to my mind, the epithet applied to MARS by the Garden City people . . . "technocratic."*

The Royal Academy Planning Committee, *LONDON REPLANNED, Country Life Press, 1942. Foreword by Lutyens. Brief comment may be quoted from the* Arch. Journal *for May 13, 1943: ". . . merely ameliorative road-planning . . . to ease traffic congestion and to obtain axial vistas round buildings of 'outstanding national interest.' Having no relation to any broad London Plan or to any new social objective, the Royal Academy plan for London, in both its political and architectural implications, remains completely reactionary."*

R. I. B. A., London Regional Reconstruction Committee, *GREATER LONDON: TOWARDS A MASTER-PLAN, R.I.B.A., May, 1943. Also in* Journal of the R.I.B.A., *June, 1943. The Committee endorses the Uthwatt and Scott Reports (and also, by implication, even the Beveridge Report), and embodies the Reconstruction Committee's general recommendations, reviewed earlier, in this broad plan for the vast metropolitan area of which London County is only one part. It extends to the whole region the principle of segregating and delimiting boroughs and residential or industrial districts by main arteries and a connecting system of open spaces. With much emphasis on district civic facilities, it also proposes that "within any given living area all types of person should be able to find accommodation suited to his or her needs." Still primarily an architects' plan, however, in that it makes little headway on that basic problem, metropolitan or regional administration.*

(*Birmingham*) *WHEN WE BUILD AGAIN, A Bournville Village Trust Research Publication, Allen & Unwin, 1941. Systematic research into the relation between homes and work places in Birmingham, plus polls of citizens' preferences with respect to private gardens, etc., lead to a proposal to check fringe development and concentrate on a new satellite community complete with industry and varied accommodation, to be located 20 or 30 miles out.*

City of Coventry, *PLAN FOR THE NEW COVENTRY. Primarily sketches for the reconstruction of central blitzed areas, notable for the inclusion of fresh moden design and planning approach. Prepared by the office of the City Architect, D. E. E. Gibson.*

(*Gloucestershire*) *THE COUNTRY PATTERN, an interesting report by Gordon Payne, County Planning Officer for Gloucestershire, in the* Housing and Planning News Bulletin, *#25. His County Council is now primarily concerned with the problem of "agriculture versus development," and has decided to purchase suitable community sites, complete with greenbelts, to be leased to industrial and commercial concerns and housing Associations (similar to our limited dividend companies). These communities will be administered by a Joint Board of Management representing the County Council, the Housing Associations, and Industry. Thus good farmland will be protected from sporadic or spotty development.*

(*Yorkshire*), *W. S. Morrison, Minister of Town and Country Planning, in a speech printed in BRITAIN LOOKS AHEAD, British Information Services, 1944, describes an effort in the North Riding to protect landscape and farming activities by zoning the moorland against all unnecessary building development of any kind.*

HOUSING AND CITIES: STANDARDS AND DESIGN

Evidence to the Central Housing Advisory Committee *of the Ministry of Health, on the DESIGN OF DWELLINGS (1942):*

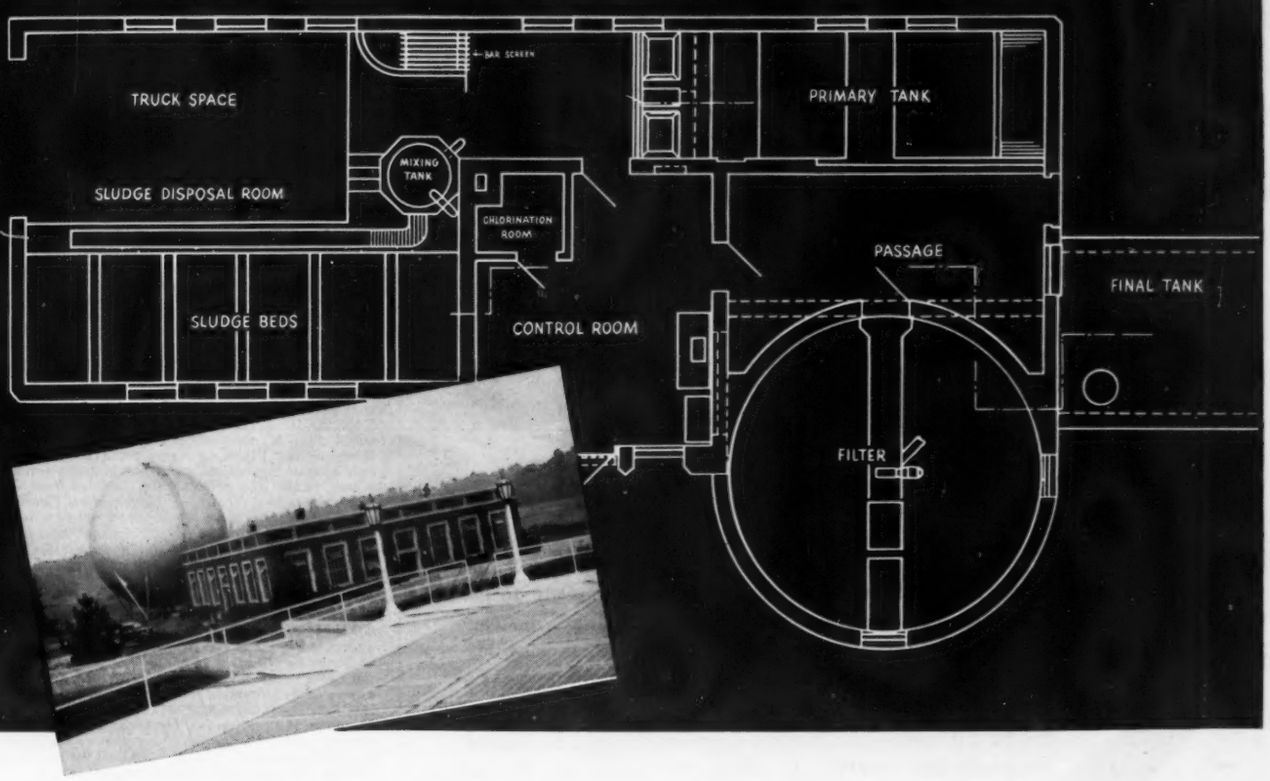
National Housing and Town Planning Council. *Report printed in* Housing and Planning News Bulletin *#17. Progressive in principle but straddles controversial issues.*

Royal Institute of British Architects. *This detailed report, mimeo'd by*

(Continued on page 102)

Before you put that plant on paper

weigh the advantages of aluminum



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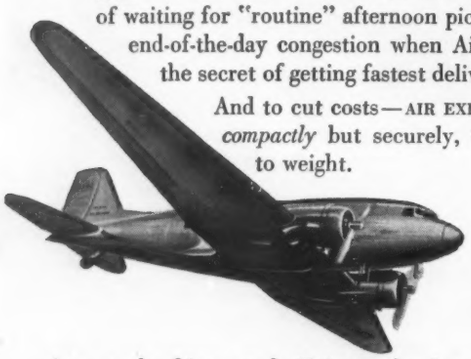

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Toward a Green and Pleasant England?

(Continued from page 100)

R.I.B.A., criticizes the lack of community development in the past, wants increased space and equipment standards in public housing particularly and makes specific proposals to improve the living quality of apartments.

Royal College of Physicians. *Memo reviewed in* Housing and Planning News Bulletin *#21. Proposes much higher space standards (infants and children need more space than adults rather than less); a minimum of 3 bedrooms for all normal families of 2 or more; community facilities for public health and feeding; and the housing of rural workers in villages with town amenities.*

Society of Women Housing Managers. *Reviewed in* Housing and Planning News Bulletin *#24, this study presents the results of interviews with 2000 tenants, mostly in public housing. Resulting recommendations reflect a general desire for more space and more privacy, and rooms for workshops and tenant meetings, particularly in flats. They want quiet roads, but not cul-de-sacs. Managers do not want "problem families" segregated.*

Women's Advisory Housing Council. *This report, reviewed in* Town and Country Planning, *Spring, 1943, is also based on questionnaires. 94% preferred houses to flats, most wanted better community facilities including a restaurant and nursery school. In the same issue of the magazine is a summary of other surveys, showing that 75-95% want private houses rather than flats.*

Housing Centre. *WHAT THE TENANTS THINK OF KENSAL HOUSE, Report #94, May 11, 1943. Detailed interviews with the low-income tenants of this experimental modern apartment building indicate, among other things, dissatisfaction with the minimum "laboratory" kitchen so dear to the hearts of modern architects. They want real space in kitchens for eating, sitting, washing, drying, etc. in order to leave the living room relatively "tidy."*

National Council of Social Service. *THE SIZE AND SOCIAL STRUCTURE OF A TOWN, comprehensively reviewed in* Housing and Planning News Bulletin *#25. The case against "one-class" suburban housing developments, public and private alike, isolated from work places and devoid of civic facilities. Strong recommendations for well-equipped neighborhood units of "socially balanced population," and for new or expanded towns of about 50,000 population to absorb the overflow of people and industry from big cities.*

Stephenson, Flora and Gordon. *COMMUNITY CENTERS, a pamphlet jointly sponsored by the* R.I.B.A., *the* National Council of Social Service, *the* Housing Centre, *and the* Leverhulme Grant Fund, *1942. An admirable survey of the movement for Community Centres which was gaining nation-wide impetus and Government attention just before the war. Plans and descriptions are included, of community buildings in housing projects, village halls and the famous new Village Colleges, and the very complete center provided for the Slough "Trading Estates." As a rule, citizen associations are entirely responsible for management of these facilities.*

Tripp, H. Alker. *TOWN PLANNING AND ROAD TRAFFIC, Edward Arnold, 1942. An important technical book by the Assistant Commissioner of Police, Scotland Yard, which has greatly influenced the current trend toward "precinctal" or neighborhood planning.*

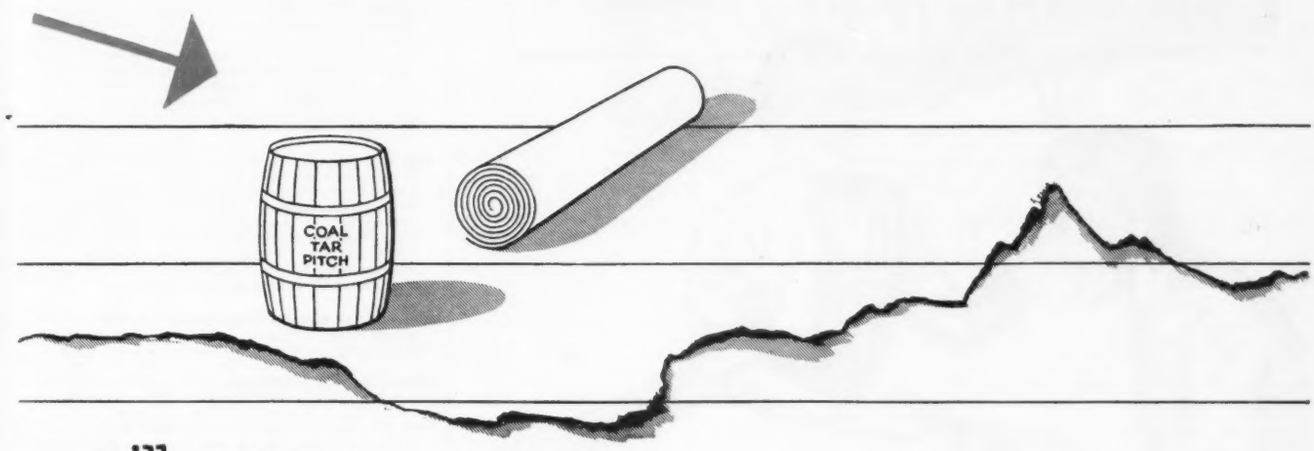
Whittick, Arnold. *CIVIC DESIGN AND THE HOME, #10 in the Faber and Faber pamphlet series. Introduced with reservations by Professor Abercrombie, this study interprets the results of numerous discussions with groups of soldiers as to their postwar housing desires. An enormous preference for houses over even the most amenable flats was indicated, but if flat roofs and big windows mean "modern," that's what they want. They also want their place of work distinctly separated from their homes, but not more than half an hour away.*

HOUSING AND THE BUILDING INDUSTRY: PROGRAMS AND BROAD POLICY

Cole, G. D. H., *AGENCIES FOR POSTWAR HOUSE BUILDING,* Housing Centre, *Report #111, 1943. An eminent social economist recommends that most new housing be publicly constructed, for rent. He proposes a National Housing Corporation, working through local public corporations organized on a regional basis. He also wants a National Building Corporation, to regulate and coordinate the various elements of the building industry; and a special Corporation to set up new towns and administer them until they can have their own local authorities.*

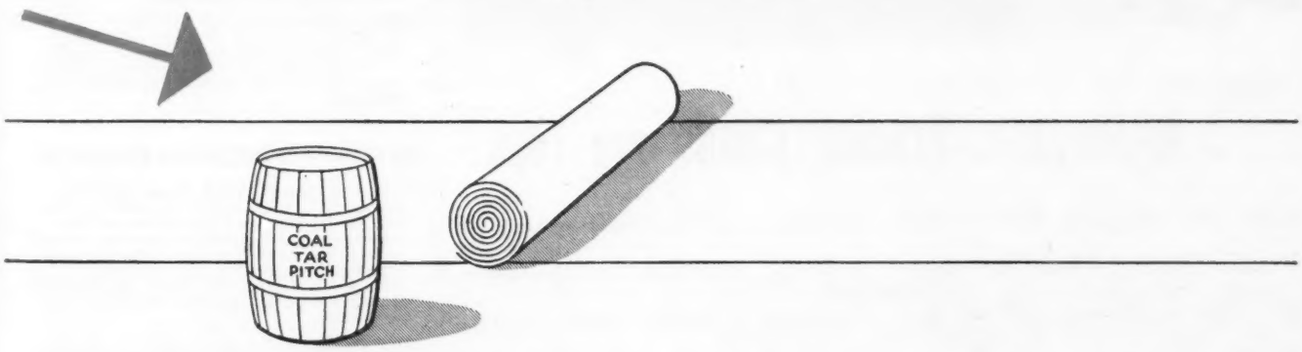
(Continued on page 104)

"coal tar pitch or equal"



still means

coal tar pitch



The grim necessities of war have been a powerful prod to American inventiveness, and many marvelous new things are coming out of the industrial activities of this wartime period . . . but no one has been able to find any method of roofing flat areas that can improve on the old, true-and-tried coal tar pitch.

Ever since the days of the Civil War, coal tar pitch has been widely used in roofing. During this war, some of the biggest roofs in the whole world have been built by America on war industries with Koppers Coal Tar Pitch.

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Arkwright TRACING CLOTHS

AMERICA'S STANDARD FOR OVER 20 YEARS

Toward a Green and Pleasant England?

(Continued from page 102)

Co-operative Permanent Building Society, *DESIGN FOR BRITAIN pamphlet series. This large and successful building and loan company is unique in several respects. It recommends lower interest rates and more responsibility by lenders for standards. It is working with limited-dividend Housing Societies toward the establishment of entire new towns. And it publishes this series which, though uneven, includes pamphlets by such untrammeled liberal thinkers as C. E. M. Joad, G. D. H. Cole, etc.*

The Economist *has done some hard thinking on various aspects of postwar building and housing, including an article on the close relation between a low-rent housing program and the Beveridge Plan (January 30, '43), and several pieces on the possibilities and pitfalls in the vast 10-year building program set forth in a recent Government "White Paper," which apparently envisions the construction of 3 or 4 million homes in the decade following the war (March 6 and 13, July 31, 1943).*

Elsas, M. J., *HOUSING BEFORE THE WAR AND AFTER, P. S. King, 1942. A first-rate piece of research on national housing needs, in terms of quantitative and qualitative shortage, rent-levels in re the necessity for public housing, the role of the "second-hand house," experience with "Rent Rebates" in public housing, possible influence of a "population policy," etc. Some such study is badly needed in the U.S.A.*

Housing and Planning News Bulletin *includes miscellaneous comments on proposed housing policies in almost every issue.*

Simon, Sir Ernest, *THE REBUILDING OF BRITAIN,* British Information Services, *N. Y., 1942. An admirable and energetic leaflet, by an eminent authority, on the ABC's of English housing history, and her current determination to solve the problem at long last.*

SOCIAL SURVEYS (samples, merely)

Our Towns: A Close-up, *Oxford, 1943. Evacuation to the country of mothers and children from London slums brought with it many shocks to all concerned, among them this realistic study by a group of trained women, of "the domestic habits of a minority of town dwellers, as disclosed by evacuation." Not smoothly written, but rich with facts, indignation, idealism, and common sense proposals based on the need for "better education and better environment."*

Idle, E. Doreen, *WAR OVER WEST HAM, Faber and Faber, 1942. This careful study of a badly blitzed water-front area includes physical, social and political history, and some interesting interpretations of the results of planlessness in an emergency.*

FOR POPULAR EDUCATION AND STIMULATION

Fry, Maxwell, and Jane Drew, *ARCHITECTURE FOR CHILDREN, Allen and Unwin, 1944. Just out, and an excellent introduction for any layman or laywoman, who will probably be less put off by the title than their children are likely to be. Mr. Fry did another small book, FINE BUILDING (Faber and Faber 1944), before he went off to replan the Gold Coast for the Government.*

Our Birmingham, *Cadbury Brothers Ltd., 1943. Birmingham, in lively illustrations and good maps, from Saxon times until "when we build again," with big plans for housing improvement, central reconstruction, and a satellite industrial town.*

R. I. B. A., *REBUILDING BRITAIN, a pamphlet designed to accompany the exhibition of the same name, and TOWARDS A NEW BRITAIN, a small book covering similar material. Fresh in style and illustrations, their lively temper is indicated by lead-off statements; "The people of Britain will get the reconstruction they deserve," and "A Declaration of War on Squalor."*

Sharp, Thomas, *TOWN PLANNING, Pelican, 1940. A comprehensive and stimulating little book by an able exponent of the principle that town should be town and country should be country. "Popular" only in that it is cheap and so well written that it should interest any intelligent layman. Mr. Sharp is now Planner for the Durham area.*

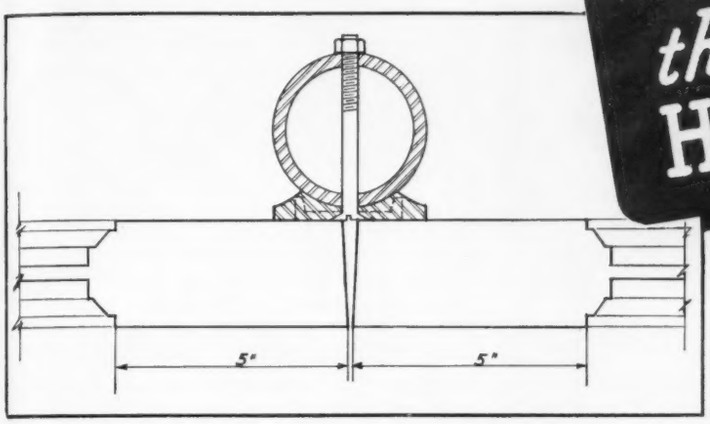
Tubbs, Ralph. *LIVING IN CITIES, Penguin, 1942. One of the most successful efforts to get specific modern architectural and planning ideas across to the uninitiated.*

Your Inheritance, the Land: *"An uncomic strip, with a hundred pictures and about as many morals." Housing Centre. Very amusing and enlightening history of a typical English town, for a sophisticated public.*

A GOOD RULE

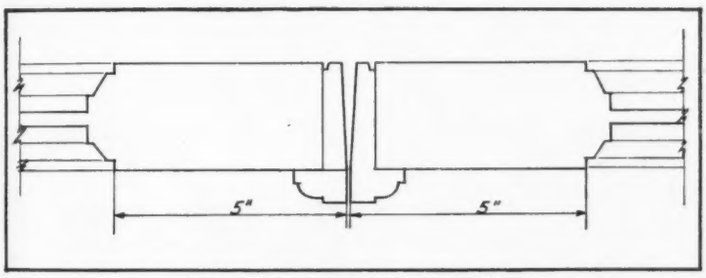
Select your hardware first — then detail to suit it. American manufacturers have standardized to a great degree. By making your details to suit these hardware standards you will *save* your clients' *money*, *expedite delivery*, and *eliminate* many aggravating hardware *problems*.

Detailing that PROTECTS HUMAN LIVES



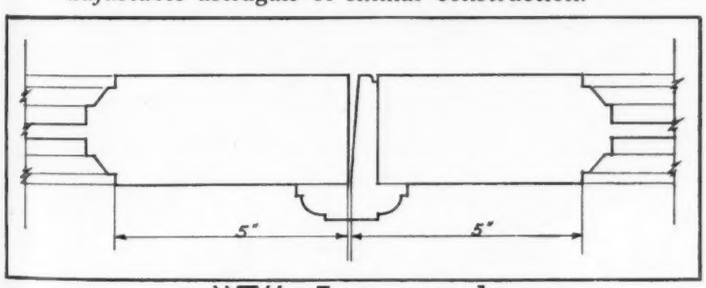
Removable Pipe Mullion

Often used without pipe mullion.



Split Astragal

There are on the market various patented adjustable astragals of similar construction.



"T" Astragal

This type of "T" astragal is not recommended for use with fire exit bolts. It is more suitable where full width of opening is not quickly necessary.

THE careful detailing of meeting rails, particularly on entrance doors with exit devices, is of vital importance. This hardware is devised to save human lives, *and it must be given space to operate properly.*

Shown here are three proved standard practices for detailing meeting rails. Your co-operation in making sure that this important hardware has "room to breathe" will help to protect lives and property.

Yes — a keen eye on the hardware *when detailing* will avoid a black eye on the job.

☆ ☆ ☆

Let's co-operate: you consider your hardware requirements *early*, and we will gladly help you solve *special* hardware problems. Lockwood Builders' Hardware is featured in Sweet's Architectural Catalogs. D

LOCKS? USE *Lockwood*

HARDWARE MFG. CO.

Division of Independent Lock Co.

FITCHBURG, MASSACHUSETTS

As soon as ready please send me the series of 12 Detail Sheets, of which this is No. 4. No obligation.

Name_____

Address_____

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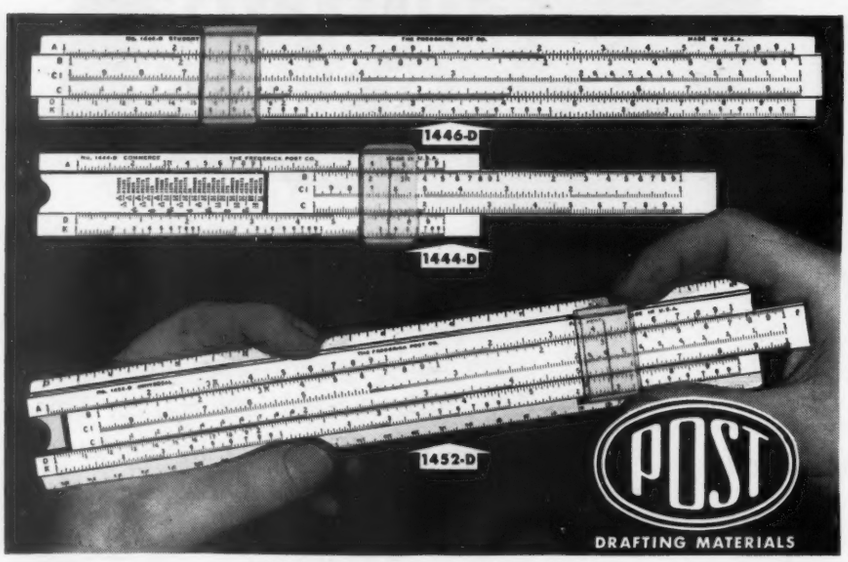
New Slide Rules
IN PRODUCTION



3 Types • 3 Prices • Immediate Delivery

SIMPLE INSTRUCTION MANUALS INCLUDED

Made for the emergency—they'll do the job—and you can get 'em right now. Post Slide Rules come in leatherette cases and are accompanied by comprehensible instruction manuals. Read the descriptions below and reach for the phone for fast-action delivery.

1452-D—Ten inch Celluloid Face bevel edge slide rule. Inches and metric rules on bevel edges. Scales A, B, C1, C, D and K on slide front. Scales S, L and T on reverse side.
Attractive leatherette case.....List Price $3.50

1444-D—Five inch Celluloid Face POCKET style slide rule. Scales A, B, C1, C, D and K on slide front. Scales S, L and T on reverse.
Leatherette Pocket case.....List Price $2.25

1446-D—Ten Inch Printed Surface slide rule. Inches and metric rules on vertical sides. Scales A, B, C1, C, D and K on slide front. Scales S, L and T on reverse side.
Leatherette case.....List Price $1.50

POST
HOUSTON
The Frederick Post Company
1215 CAPITOL AVE. CAPITOL 1233

Views

(Continued from page 10)

a very real danger in not having it large enough.

Point 5—I have no quarrel with the ambition to provide private mortgage insurance facilities to take the place of FHA, but, as noted above, I am skeptical that it can or will be done.

Point 6—I disagree with this proposal for several reasons, one of which is that local welfare expenditures are notoriously inadequate even for purposes of providing food for the needy. Such a move as is advocated would, in my opinion, mean the perpetuation of slums.

Points 7, 8, 9, and 10 are all to my liking.

All of the above is an honest statement of opinion, and I cannot refrain from taking the stand I do, even though it might be considered unwise or impolitic to do so. I think you know me well enough to accept my views for what they are, and not to read into them anything that isn't there.

KEN REID

WILL WE BUILD WITHOUT WOOD?

Note: Many individuals and news reports say that wood is not only scarce, due to war requirements, but that a real and long-term shortage is fast accumulating. Its use as a building material, so they say, will not be seen again for many years—not until eight years after the termination of hostilities, according to the most pessimistic.

That such reports are current indicates that all is not well. Just how serious the situation really is—or may become—is not yet clear. In the following discussion, we attempt to pull together a few of the loose ends through a compilation of opinions and facts which interested readers have kindly contributed.

The flood of statements and news reports emanating from Washington indicates a scarcity of lumber now, and predicts or presages dire happenings for those who depend on construction for their share of that green paper that is almost as valuable as food, shoe, and gas coupons.

It may not be amiss to look at the situation from afar, analyze these outgivings dispassionately, and having done so, try to envisage just what the future holds for the building industry.

Shortage or Scarcity

That there is a scarcity of lumber no one will question. But a scarcity need not be a shortage, for the former may be caused by a temporary extraordinary

(Continued on page 108)

Strict LABORATORY CONTROL...in all products!
The manufacture of consistent high quality products doesn't JUST HAPPEN at the Mueller Brass Co. plant. We maintain strict laboratory supervision over every phase of our manufacturing processes. Metal mixes are actually made up and checked to insure metallurgical correctness of the finished products. Each processing sequence is carefully analyzed, both as to chemical composition and physical properties to make sure that they are up to specification. Further checks are religiously made on finished products to make certain that they meet the customer's requirements.
Mueller Brass Co. laboratory technicians have rendered invaluable assistance, not only to our own production of munitions parts, but also to other manufacturers of aircraft, tanks, guns, ammunition—and to many other war materials suppliers. Ever present with our armed forces are the products of American ingenuity—made more powerful, more efficient, and more deadly because of consistent laboratory control and research.
Skill and strict control are the reason why STREAMLINE copper pipe and STREAMLINE fittings are consistently the same. STREAMLINE copper pipe is made for use with, and best results are obtained when they are used together.
MUELLER BRASS CO.
PORT HURON, MICHIGAN
STREAMLINE PRODUCTS

Views

(Continued from page 106)

demand, while the latter connotes a permanent failure, or shrinkage, of source.

We are cutting lumber at a rate about 9 times faster than nature, assisted by our puerile if earnest efforts to assist her, is producing it. In other words, we are depleting our forests at a terrifying rate. How long can we continue to do so? Well, the consensus of competent opinion is that we can continue to cut all that is possible for many years yet without reaching the danger point of not having enough trees to supply normal annual demand for both structural wood and pulp. Moreover, because of better transportation, in the form of roads and trucks, it seems probable that we can continue to get at lumber and cut it without increasing the cost of such part of the processing operation.

If weather would only permit—and it never has—the lumbering industry could cut 40 billion feet annually, instead of the maximum of 34 billion we shall reach in 1944.

So it may be said categorically that there is no present shortage of wood, nor is one likely to develop during the next few years, even if the present rate of cutting continues. We've got the trees; it's merely a question of turning them into sticks and chips.

But a scarcity does exist now and bids fair to continue for some time. The reasons for this are not all so obvious as the principal one—war demands.

Lack of Controls

Inability to foresee the turn the war would take has kept lumber among the uncontrolled commodities long after steel, copper, aluminum, and other metals went on allocation. Even now, says WPB, "the major portion of lumber is under loose control," while the situation hourly becomes more critical.

Worn-Out Machines

As a result of such policy, replacements for lumbering equipment and sawmill machinery were withheld when steel was scarce, so that many mills are in poor shape and cannot yet get parts to put machinery at maximum production. Perhaps another 6 months will remedy this cause of scarcity. But it is presently a factor in depleting gross stocks of processed lumber, and explains, in part, why shipments exceed production by 10% and unfilled orders pile up.

Manpower

And, of course, we all know about manpower. The military has taken many lumbermen, but who shall say the lumber industry has lost a greater proportion than other industries? The lure of steady, high wages in war plants, easy work, and the enforced cessation of work because of machine failures, has drawn many men from the woods and the mills.

Boxing and Crating

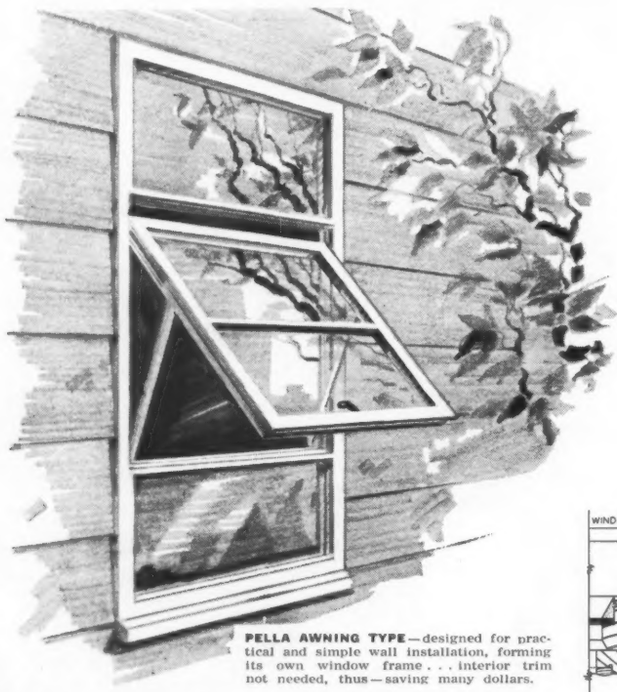
However, these had not been serious—as is shown by production figures of well over 30 billions for the last two years—had not the demand soared to dizzy heights for that heretofore lowly end product, boxing and crating lumber. From 4.3 billion feet in 1941, this use rose to 15.5 billion in 1943, and is expected to hit 17 billion in 1944—fully half of all the lumber we can possibly produce.

Nor is there much hope ahead when victory rewards our efforts—in Europe by 1945, and in the Pacific, shall we guess, 1947. The demands for dunnage boxing to supply troops that cannot be all brought home for at least a year, and for goods needful for the recovery of the occupied countries will continue with only a gradual slackening at first.

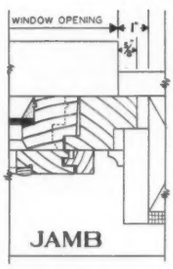
European Production Inadequate

Some optimists look to see Russia supply our needs in Europe, and even ex-

(Continued on page 110)



PELLA AWNING TYPE—designed for practical and simple wall installation, forming its own window frame . . . interior trim not needed, thus—saving many dollars.



LOW COST *Pella*

"AWNING WINDOWS"

For Standard 2x4 Frame . . . Thin Wall . . . Masonry Construction

Made by Makers of Famous Pella Casement Windows

No FRAMES / SASH WEIGHTS / BALANCES

White Pine Sash . . Toxic Treated . . These extremely ingenious windows set right in the studding! They do not require any frames, sash weights or balances. Units come completely assembled so no fitting is necessary on the job . . . Flush type lock handle is an exclusive feature. Units can be glazed with standard size lights...Available with screen and storm sash—inside screen and storm sash are interchangeable; top hinged or channel guided. Pella "Awning" Windows comply with Federal Housing Authority Specifications . . . WRITE FOR FREE DETAILS! Mail a post card TODAY! Ask for your FREE set of full-size details on Pella "Awning" Windows. Address Dept. 144.

IDEAL AND EASY TO ADAPT FOR SPECIAL JOBS LIKE THESE

MULTIPLE UNITS of Pella "AWNING" WINDOWS made to your specifications are available when quantities warrant. Wide range of combinations possible. For schools, office buildings, etc. upper sash can be made to ventilate.

"4-CYLINDER" HOUSE designed by Arthur T. Brown, A. I. A. of Tucson, Ariz. incorporates Pella "AWNING" WINDOWS. Pella's broad, horizontal lines give house the appearance of greater size.

Patent No. 135609

ROLSCREEN COMPANY, PELLA, IOWA

Pella Rolscreens • Pella Venetian Blinds • Pella Casements

UNDER THE NATION'S ROOF

April, 1944

Committee on Postwar Construction of the Dodge Corp. has tabulated 24,721 specific projects awaiting the green light. Total aggregate cost 5½ billions. More than half of these are now in designing stage...mostly non-residential and public in character.

Thinking in terms of roofing it's a safe bet that most of these projects will call for Built-up Roofing.

No ONE type of Built-up Roof construction fits all types of buildings. But the four popular types of Built-up Roofs do give the architect complete freedom of design.

Here are a few basic roof facts for the specifier's notebook: Four popular types of Built-up Roofs are: (a) Coal Tar Pitch and Felt; (b) Asphalt and Asphalt Felt; (c) Smooth finished Asphalt and Asbestos Felt; (d) Combination roof of Asbestos and Asphalt Felt with Asphalt. Ruberoid is not wedded to any one type. Ruberoid engineers and Approved Roofing Contractors recommend the most suitable roof to meet any condition.

It is a fact that no Built-up Roof is better than its flashings. Ruberoid has practical flashing specifications to meet every condition. Ask for Specification Catalogue A.1.A-12-B-1.

Actual field use has proven Perforated Asbestos and Asphalt Felts definitely minimize "blistering." The two-way perforations permit escape of moisture, trapped between the plies of felt, allow the Asphalt to seep through giving a better bond. Perforated Felt is standard on all Ruberoid Asbestos and Asphalt specifications.

In postwar building, the use of standing water on roofs of industrial plants for cooling purposes will increase. Also, many more apartment dwellings will be built with roof gardens. Ruberoid has special "spray deck" specifications to meet these unusually severe conditions.

The RUBEROID Co.

Asphalt and Asbestos Building Materials

For up-to-the-minute information on your roofing and building problems consult our nearest sales office:

NEW YORK (18)—500 Fifth Ave. • CHICAGO (1)—307 North Michigan Ave. • BALTIMORE • ERIE • MILLIS (Boston) • MINNEAPOLIS • MOBILE

Views

(*Continued from page 108*)

port lumber to us as part of repayment under lend-lease. But if it is going to take us a year or two to recapture our lumber for civilian uses, how can we expect Russia not to take the same time to begin civilian distribution in quantities sufficient to make a dent in the amounts that will have to be supplied? No other European country, except Scandanavia, where cutting is strictly limited to crop growth (and who knows what Germany is doing to Norway's forests, or to what extremes Finland has been brought by her unfortunate quarrel with our ally), has even enough lumber for its own peace time needs. How then shall Europe hope even for restoration of war damage without America's assistance?

Four-Year Dearth

No. Whatever way you look at it, lumber is scarce, and is going to be scarce until hostilities cease, and then for at least three years more. One can almost bet that lumber will never again be sold in a buyer's market, and one can certainly bet, without takers, that four years will elapse before there is enough lumber in dealers' yards to meet civilian requirements fully.

Housing in 1944

To make the outlook even gloomier, consider the official estimates of 1944 construction—3.7 billion dollars, of which only 855 million go for housing of all kinds. At most, that might produce 250,000 dwelling units. We get a bit more cheer if we start with the WPB estimate of 4 billion F.B.M. for 1944 construction and apply the lumber/dollar ratio below, of 0.92 ft. per dollar of construction. This gives a total volume of 4.34 billion dollars, of which 997 millions is residential. That's 23% of the total, which gives us 920 million feet of lumber. Now under WPB Order P-55-c, as of March 1, 1944, the average housing unit can use 4 F.B.M. of wood per square foot; thus housing units are restricted to a maximum of 3600 F.B.M.

So we may be able, in 1944, to build 255,000 housing units with private funds. Of course if war needs require an increase in temporary housing over the 60,000 units presently projected, there might be a little bit more lumber (assuming that 4,000,000,000 F.B.M. were actually earmarked for housing) for private builders, for FPHA's multiple substandard housing units take only 2400 F.B.M. each.

Dark Clouds Ahead

That's a black picture. It doesn't offer much hope for a vast resurgence of private building, home or otherwise, in the post war period, when the tremendous deferred program of civilian building should come into its own.

Sun May Break Through

But there are some bright spots.

Firstly, is the need for housing, estimated by WPB as 7,400,000, all of which should be built within the next 6 years. Secondly, is the program of industrial and commercial building, and roads, public works, railroads, farms, utilities, and all other kinds of non-residential construction.

Thirdly, is the inescapable fact that the dollar volume of construction is roughly 12% of the national income. Unless that ratio is maintained or approached, one cannot be called Jeremiah for predicting severe abdominal pains in the body economic.

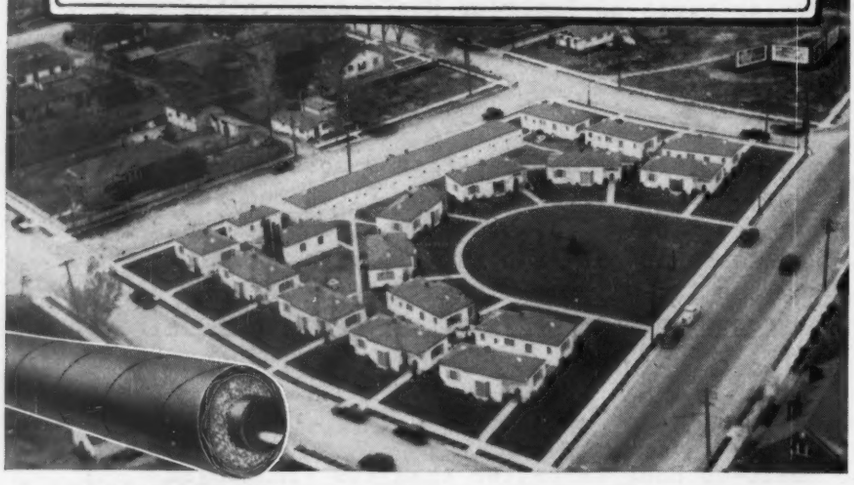
And fourthly, is the Spartan education we have received during the past two years in using lumber sparingly. Statistics prepared by most reliable sources, and thus representing a composite of all available figures, give the following picture:

Year	Total Construction $ Billions	Total Lumber for Construction F.B.M. Billions	F.B.M. Per $
1926	10.8	2.4	7.6
1933	22.0	5.0	7.0
1943	2.03	2.08	0.92

In other words a decrease of 55%. Not

(*Continued on page 112*)

How the Post-war Home can be heated for $31 per year



EL RENO PROVES CENTRAL HEATING PRACTICAL FOR SMALL HOME COMMUNITIES

This is the story of a housing project completed in 1937, by a man whose thinking was years ahead of his time. On a 1½ acre tract in Reno, Nevada, he erected 18 buildings—15 separate dwellings, a garage, caretaker's cottage, and a central heating plant. Every detail in the project was carefully planned to provide maximum comfort and convenience to tenants—who are well satisfied to pay fair rent for each furnished unit consisting of living room, dining alcove, kitchen, two bedrooms, a bathroom and lavatory.

One of the outstanding features of the project is the central heating system—which provides hot water heat to the homes through Ric-wil. insulated under-ground conduit. Boilers use fuel oil. So efficient is this system that the heating bill for the entire project averages only $500.00 per year. Hot water for family use is also piped through Ric-wiL conduit from the central heating plant. These economies help the owner, Mr. Roland Giroux, to realize 13% net return on his investment.

EL RENO Owner cites efficiency of Ric-wil Conduit

"Regarding the cost of heating these sixteen units, here are the figures:

"Cost per month per apartment (5 rooms) for the 1937–1938 heating season:

"Total of 8019 gallons fuel at 6¼ cents per gallon.

Sept. $ .81	Dec. $5.12	Mar. $4.94
Oct. 2.25	Jan. 5.50	Apr. 2.44
Nov. 3.75	Feb. 5.00	May 1.12

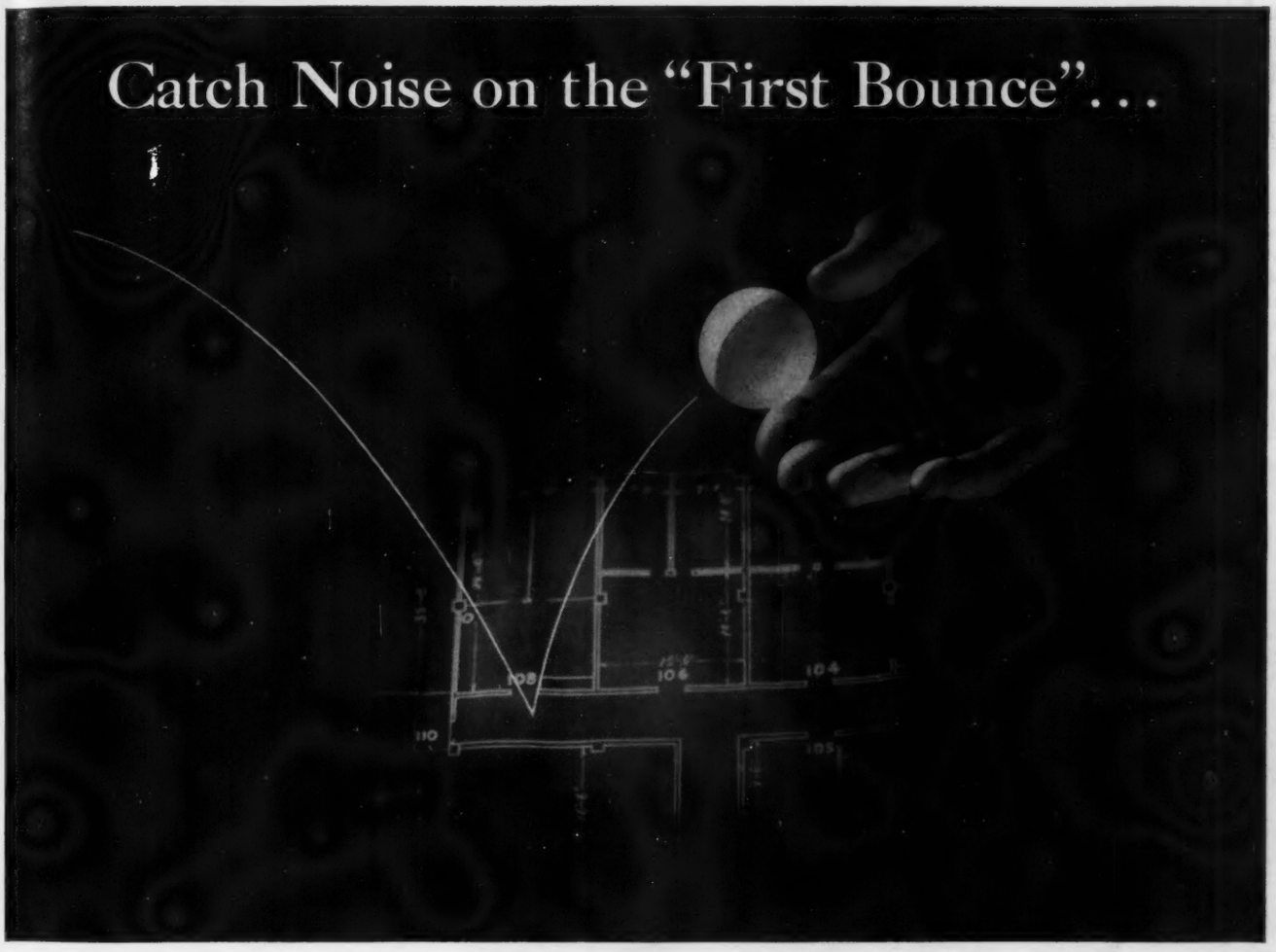
"Thus you will see that the heating costs are less than $4.50 per month, per suite. One cannot appreciate these heating costs unless they have been in the apartment business, where tenants will open windows rather than lower the room thermostat, when too warm.

"There is no question in my mind that central heating is more economical than separate units. *"The high efficiency of the Ric-wiL conduit is positive, from the above figures.* The average 5 room house in Reno will use one ton of coal per month, at a cost of thirteen dollars per ton, during the heating season."

As of Feb. 28, '44, Mr. Giroux Has This to Say:
"This data is as true today as when the buildings were built. About the only thing I could add is that the amount of fuel oil used has not varied 100 gal. per year since the system was installed seven years ago, which proves to me that the efficiency of the insulated conduit does not lower as time goes on. The upkeep has been zero."

RIC-WIL INSULATED PIPE CONDUIT SYSTEMS
THE RIC-WIL COMPANY · CLEVELAND, OHIO
AGENTS IN PRINCIPAL CITIES

Catch Noise on the "First Bounce"...



WITH SABINITE "M"

Disturbing noise bouncing around—is on the way out—it's old-fashioned and unnecessary. For today, with Sabinite* "M", walls and ceilings are not only beautiful and fire-protecting but *"catch noise on the first bounce"* and absorb a large percentage of it.

A "plus" has been added to plaster with Sabinite "M" . . . and this without change in standard building practice, men or methods. For Sabinite "M" is a plaster finish applied by any good plasterer over standard plaster bases. It has high light-reflectivity; is available in several colors.

ACOUSTICAL PLASTER FINISH

This results in buildings that are designed with "sound-conditioning" as a part of the original conception—that blends with the decoration and harmonizes with the design instead of adding a distracting note—"patched on" like a P. S.

So today—the modern-designed office buildings, restaurants, homes, auditoriums, hospitals, schools and churches make "sound-conditioning" a part of the original conception. Otherwise they are old-fashioned before they are built. This is possible because Sabinite "M" decorates, protects from fire, and quiets sound in one operation—a three-way service at a cost extremely low.

*Trademark Reg. U. S. Pat. Off.

TODAY'S "QUIET" WAY

One material that decorates, protects against fire and quiets sound in one operation — Sabinite "M".

USG

UNITED STATES GYPSUM
300 W. ADAMS ST., CHICAGO, ILL.

This famous trademark identifies products of the United States Gypsum Company—where for 40 years research has developed better, safer building materials.

FIREPROOF GYPSUM

The World's most widely used Mineral for making Fireproof Wall and Ceiling Materials.

PLASTER • LIME • KEENE'S CEMENT • STUCCO • GYPSUM AND METAL LATH • GYPSUM TILE

Views

(*Continued from page 110*)

all chargeable to better design, greater economy, substitutes, etc., for there has been a vast deal of non-lumber construction during these war years; but from experience it is inevitable that we have learned not to be so criminally wasteful.

Potent "Plus" Factors

So we have as plus factors a tremendous backlog of need; a normal expectancy of a 10 billion dollar construction program; the knowledge, hard gained, of how to economize on lumber; and the desirability, nay, basic necessity, of keeping the civilian economy balanced.

Controls and Allocations

Such being the case, and bolstered by the recent pronouncements of the Lumber Division of WPB, solemnly concurring with representatives of both hardwood and softwood producers, that some sort of overall controls are urgently needed, does it not logically follow that, despite the wrathful outpourings of the uncompromising advocates of free enterprise, fair and equitable means will be found to meet the greater proportion of the lumber requirements for essential post war construction?

Government controls are practically inevitable in the circumstances, if we are not to face the conditions of 1921 when many building materials were almost unobtainable in some regions and not saleable at any price in others.

Seller's Market

Lumber will continue to be scarce, but it won't be unobtainable. Let us hope that the lessons of the war economy can be applied to controlling the seller's market that is here now, despite ceiling prices, and due to stay for a long while.

Construction Industry Need Not Be Supine

It behooves those whose future is bound up in building and construction to find ways to prevent this condition from being an Old Man of the Sea. Not the least of these is to devise means of building with a minimum of wood. Another is to educate our potential home owners to accept non-wood houses. Yet another is to develop better masonry houses—and cheaper—and other types of non-wood construction.

Lumber Prices Will Rise

We can expect the price of lumber to rise. That is inevitable, no matter what controls Congress may vote. But that in itself will be no great detriment to the home-builder. Let those who think otherwise consider that the steady rise in labor's wages has not appreciably decreased the demand for more and better housing.

The Industry Will Surmount Difficulties

Doubtless the construction industry, blundering and inept and non-cohesive as it (if so multipartite a thing can be described as "it") may be, will sweat through somehow and come again to boast its role as Savior of the National Economy. Some years ago the industry was likened to a diplodocus, a creature with a 20-ton body and 20-ounce brain. Today, though its body has not decreased, its brain weighs, maybe, 40 ounces. Be that as it may, "it gets there just the same." It always has.

Civil Service vs. Private Practice

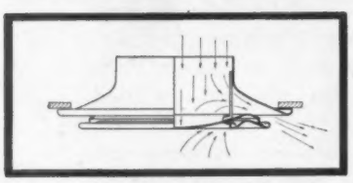
The following letter, from the attorneys for the New York Chapter, A.I.A., deals with a controversy reported in the December, 1943, issue, on page 8.

Dear Editor:

This is to advise you that the litigation fostered by two unionized groups of civil service architects and engineers seeking to restrain the City of New York from entering into contracts with private architects and engineers for the design and plan of municipal work has been finally defeated once and for all in the Court of Appeals at Albany, New York.

(*Continued on page 114*)

BARBER-COLMAN



CROSS-SECTION OF UNIT

VENTURI-FLO Ceiling Outlets make use of the Venturi principle to obtain a suction effect which mixes room air with supply air and provides a diffused discharge at a slightly downward angle. With these units, there is a *minimum pressure drop* and an extremely *low noise level.*

venturi-flo

CEILING OUTLETS

FOR *GUARANTEED* RESULTS

Data based on complete tests enable us to recommend exactly the right outlet for any condition and GUARANTEE results. You are assured of uniform, properly diffused air of the desired temperature at specified level, with required air movement and elimination of hot, cold, or drafty areas. Use ENGINEERED AIR DISTRIBUTION — see your Barber-Colman representative.

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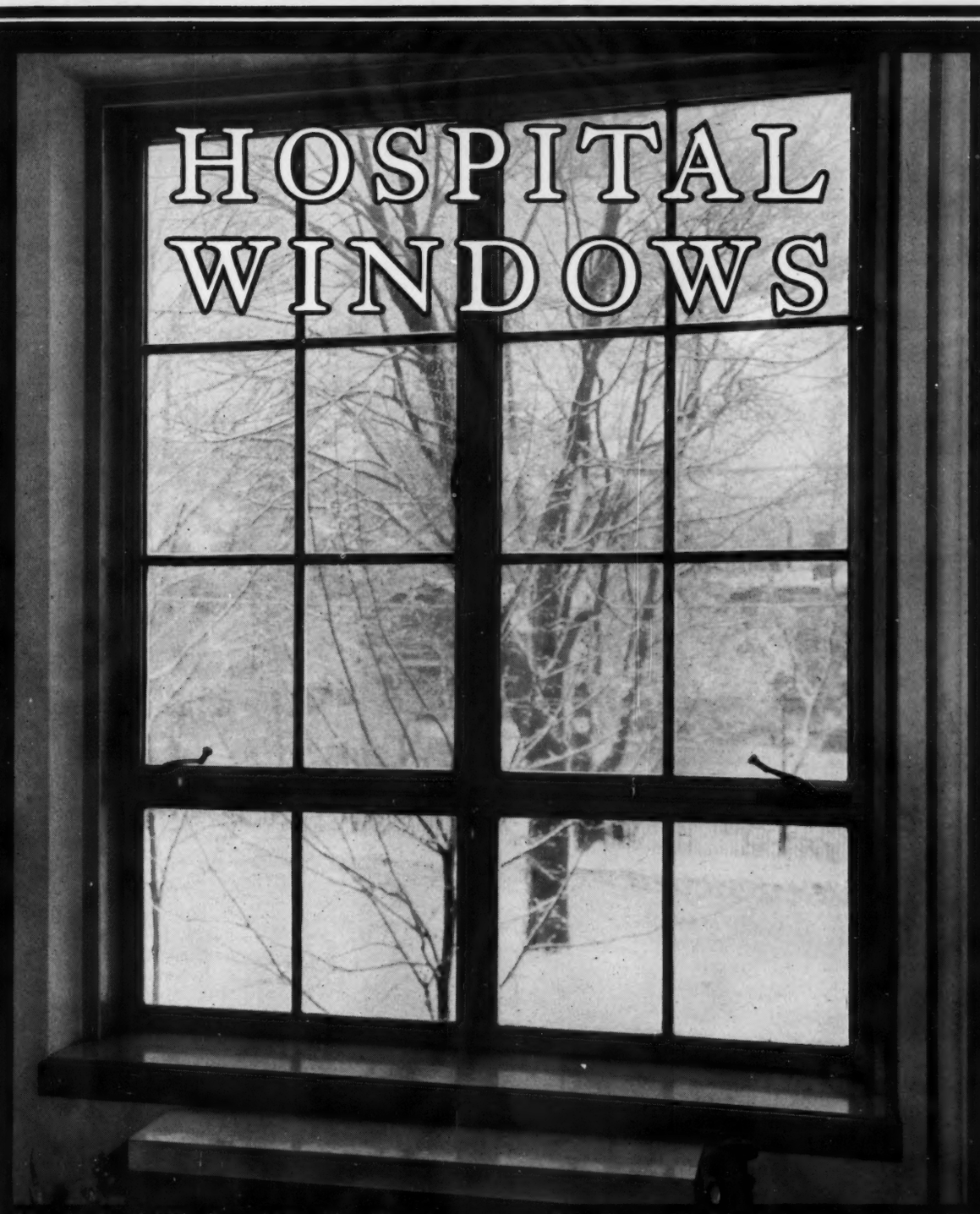

Hope's Steel Windows (Hopkins Type) *W. C. A. Hospital, Jamestown, N. Y.*

IDEAL WINDOW FOR HOSPITAL ROOMS AND WARDS . . . EASILY AND CHEAPLY SCREENED . . . OUTSIDE GLASS SAFELY AND EASILY WASHED FROM INSIDE . . . . CASEMENT LEAVES SWING OUTWARD ON CLEANING HINGES . . . SILL VENT PROJECTS IN AT TOP AND PROVIDES DRAFTLESS VENTILATION . . . . DESIGN OF WINDOW PROVIDES 100% VENTILATION AT ANY TIME.

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HOPE'S WINDOWS, INC., *Jamestown, N. Y.*

BACK THE ATTACK ☆ ☆ ☆ BUY WAR BONDS

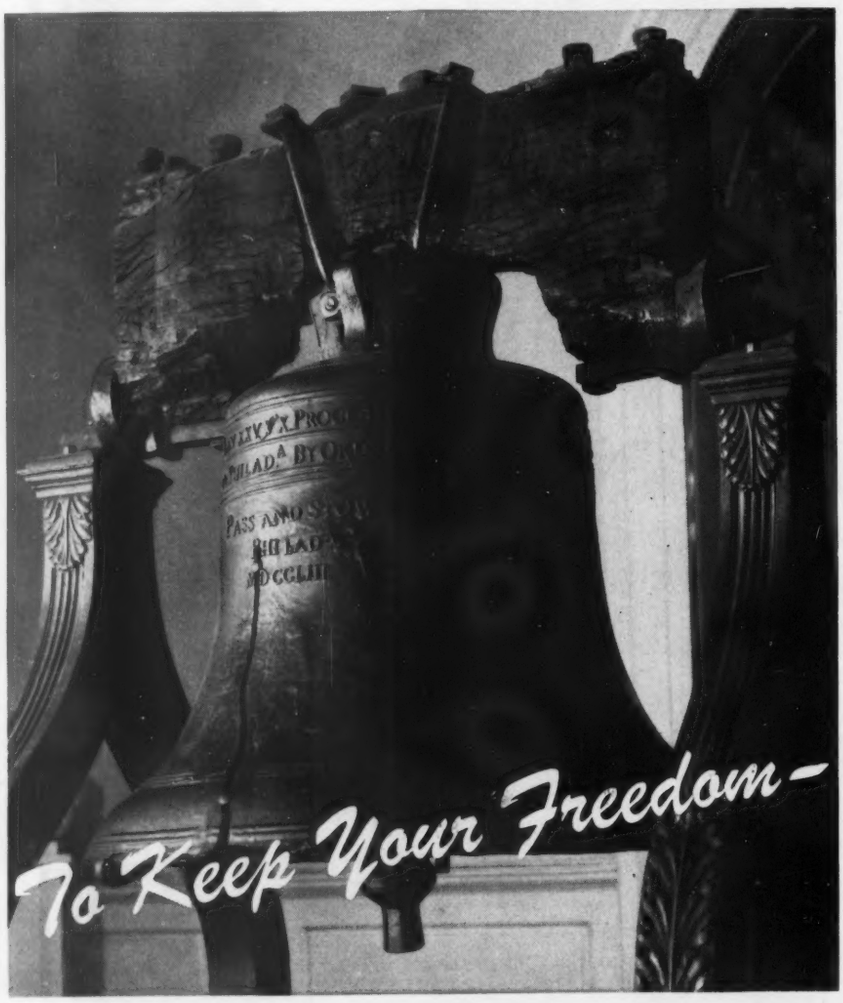
Views

(Continued from page 112)

Both cases were before the Court at the same time. The Hardecker case involved the right of the Board of Education to employ private architects to design and plan school buildings in special cases, and the Court found that the projected postwar program was such a special case as warranted the Board of Estimate and the Board of Education hiring private architects.

The second case, Civil Service Technical Guild against LaGuardia, was much broader in scope and would have had a far greater effect upon private architects generally had it been decided in favor of the unions. It would have forever barred architects and engineers in private practice from entering into and performing contracts with the City of New York for architectural and engineering services. The effect of this would be to compel the city to keep a tremendous force of architects and engineers on their civil service payrolls. Another far greater result would be practically to impose upon every city, county, village, town, and school district the obligation of maintaining civil service staffs of architects and engineers to do the public work as the occasion arose. Since most of the smaller communities do not maintain such civil service staffs, the effect on architects and engineers generally would have been disastrous.

EIDLITZ, FRENCH & SULLIVAN
New York, N. Y.



BUY MORE WAR BONDS

More Architects at War

Since the publication of the list of architectural men in uniform (December, 1943), additions and corrections have kept coming in. The following information brings us up to date as of this writing. Additions and corrections were published in the Views *pages of the February and March issues. (For abbreviations see previous issues.)*

Texas

WILLIAM V. CASH, Lt. Com.
CHAS. S. CHASE, JR., Capt. (USAAC)
NED A. COLE, Master Sgt.
MALLORY G. COLLINS, Capt.
HERMAN G. COX, Capt.
JOHN J. CROFT, Capt. (USA)
LOUIS DAEUBLE, JR., Maj. (USA), (C.E.)
FRANK C. DILL, Lt. (USNR).
T. BROOK DOUGHERTY, Lt.
J. K. DUNAWAY, Ensign (USN)
DENZEL A. EDMONDS, Lt. Com. (USN)
CARD ELLIOTT, Lt. (j.g.) (USN)
GEORGE FASULLO, (USN)
EVERETT L. FRAZIER
HOWARD W. GIDEON, Lt. (j.g.) (USNR)
EDWARD W. GLENN, Lt. Col. (USA)
A. S. GOLEMON, Maj. (USA), (C.E.)
BENJAMIN F. GREENWOOD, JR.
A. W. HARRIS, Lt. Col. (USA), (C.E.)
LUCIAN T. HOOD, JR., Lt.
JOSEPH B. HUTCHISON, (USNR), (CEC)
WOLF JESSEN, Lt. (USA)
HERBERT H. JOHNSON, Lt. (j.g.) (USN)
ROY M. JONES, Pvt. (USA)
ARTHUR G. KING, Lt. (USA), (C.E.)
BENJAMIN J. KOTIN, Cpl. (USAAC)
T. A. KRAUEL, Maj.
JOE COLEMAN LAIR
CLIFFORD J. LANE, Lt. (j.g.) (USNR), (CEC)
DAVID A. LOWN, Capt.
CURTIS A. MCCLURE, P.O. (USN)
MORTON W. MCCLURE, S/Sgt. (USA)
WILLIAM A. MCELROY, Capt.
BEN B. MILAM, Capt.
REMBERT B. MORELAND, (USNR)

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W. W. DURHAM, 2220 East Harrison St., Tacoma 4, Washington (Data and literature for research on the planning of schools)

Position Wanted

Young lady, interested in architectural drafting. One year of experience in mechanical drafting. Majored in art at college and studied at Cooper Union. Reply Box 12, C/O PENCIL POINTS.

Architects and Draftsmen Wanted

for the preparation of bakery layouts. For rates and particulars address Box 13 C/O PENCIL POINTS.

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For a point that fairly glides across the paper . . . for a gritless, even flow of perfect line . . . try an Eagle TURQUOISE. Laboratory tests and drafting room results have long since proved TURQUOISE unrivalled for accuracy of grade, opacity of line, strength of point and durability of lead. Now the Giant Pendulum Test, described below, proves that TURQUOISE is also the world's *smoothest* drawing pencil.

This gigantic pendulum, with its 540-pound bob swinging freely, makes 49,920 oscillations from a single impulse before coming to rest. When the point of a pencil (A) presses against a sheet of paper (B) on a platen attached to the pendulum shaft, its friction reduces the oscillations to a number that measures the relative smoothness of that point. The smoother the pencil, the longer the pendulum swings; and the extra smoothness of TURQUOISE is accurately registered by the extra oscillations.

YOU CAN TEST TURQUOISE, TOO. We can't ship the pendulum, but we can send a pencil; and TURQUOISE smoothness is so outstanding you can *feel* it by hand. Write for a test sample, naming this magazine, your dealer and the grade you desire.

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Reviews

(Continued from page 26)

Hardware

Lockwood Hardware Mfg. Co., Fitchburg, Mass., is preparing to issue a series of data sheets on hardware. Twelve sheets make up the set, which is also being used as advertisements in architectural magazines. Details explain hardware terminology and requirements in detailing. Free on request to Lockwood.

Heating

Byers Wrought Iron for Radiant Heating Installation, 44 pages, A. M. Byers Company, 6 and Bingham Streets, Pittsburgh, Pa. (Feb.)

Modine Convectors for Postwar Buildings and *Modine Unit Heaters and Coilers*, (Bulletin No. SA-44), 15 pages, Modine Manufacturing Company, Racine, Wis. (Feb.)

Booklet No. 550, 12 pages, (all models); No. 600, 25 pages, *(UniStokers)*; No. 351, 12 pages, *(LoStokers)*; No. 350, 25 pages, *(LoStokers)*. Detroit Stoker Company, General Motors Bldg., Detroit, Mich., or Canada Bldg., Ontario, Canada. (Feb.)

Lighting

How to Use Fluorescent Accessories, 16-page booklet, General Electric Lamp Division, 570 Lexington Avenue, New York, N. Y. (March)

Sylvania Lighting News; 8 pages, Sylvania Electric Products, Inc., Salem, Mass. (Feb.)

Lumber

California Redwood, 8 pages, The California Redwood Association, San Francisco, Calif. (Feb.)

The Mengel Company, Since 1877, 12 pages, The Mengel Company, Louisville, Ky. (Feb.)

Lumber Industry Facts (1943 edition) has just been released by the National Lumber Manufacturer's Association, Statistical Division, 1319 18th St., N. W., Washington 6, D. C.

Maintenance

Particularly timely is *Maintaining Your Buildings Today*, a tabulation of descriptions, uses, coverage, etc. of paints, enamels, varnishes, waterproofings, caulking compounds, roof coatings, and floor treatments, issued by L. Sonneborn Sons, Inc., 88 Lexington Ave., New York 16, N. Y.

Machinery and Controls

The DeWalt Portable Power Saw, 6 pages, DeWalt Products Corp., Lancaster, Pa. (Feb.)

Unitrust—General Bulletin No. 1, 20 pages, Unitrust Corp., Wayne, Mich. (Feb.)

Paint

Stewart Research Laboratory, 1340 New York Ave., N. W., Washington 5, D. C., announces the first addenda listings to the *National Paint Dictionary*, second edition, which it published. This first series is available in limited supply (to owners of copies of the dictionary) at $3.00 per set. No reprints will be available when this printing is exhausted.

Plastics

The Richardson Co., Dept. 100, Melrose Park, Ill., has issued a twenty-four page non-technical booklet on *all types of plastics*, their uses, and the plastics industry in general.

Plumbing Fixtures

Eljer Co., Ford City, Penna., has a new consumer booklet called *Women Tell Us . . .* which has been requested by over 20,000 potential home-builders. It contains a number of suggestions not only for combining Eljer fixtures into practical bathrooms and kitchens, but also on desirable sizes and arrangements, additional built-in equipment, and small items.

Standards

The American Standards Association announces the publication of more than 600 standards of which 64 have been approved or revised since the last list was printed (April, 1943). The Association has also issued a proposed *American Standard Basis for the Coordination of Masonry (A62.2)* and another proposal for *Coordination of Dimensions of Building Materials and Equipment (A62.1)*. Copies are available from the Association's offices, 29 West 39th St., New York 18, N. Y.

Storefronts

The Kawneer Co., Niles, Michigan, has published *Reports on Two Architectural Competitions*, "the Kawneer—New Pencil Points Storefronts of Tomorrow" competition to which the February, 1943, issue of PENCIL POINTS was devoted; and the Beaux Arts Class B Problem II, "A Small Stores development."

Testing Facilities

Directory, American Council of Commercial Laboratories, published by the Council. Copies available from the Executive Secretary, A. J. Nydick, 63 Wall Street, New York 5, N. Y.

To the architect forced to use unfamiliar materials, or to use familiar ones in unaccustomed ways, impartial tests of the material in use have particular value. In this booklet are presented facts concerning laboratories which are

(Continued on page 120)

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COLOR RANGE
HIGGINS
AMERICAN INDIA INK
THE INTERNATIONAL STANDARD SINCE 1880
There's no guessing contest when you use Higgins American Drawing Inks in Colors. You pick the color you wish and relax — for Higgins Inks agree with the most modern color systems and intermix readily for any color system. Furthermore, there are no embarrassing changes in color from bottle to bottle; you get what you expect as shown on the handmade Higgins Drawing Ink Color Card. Send for one . . . it's your COMPLETE COLOR RANGE.
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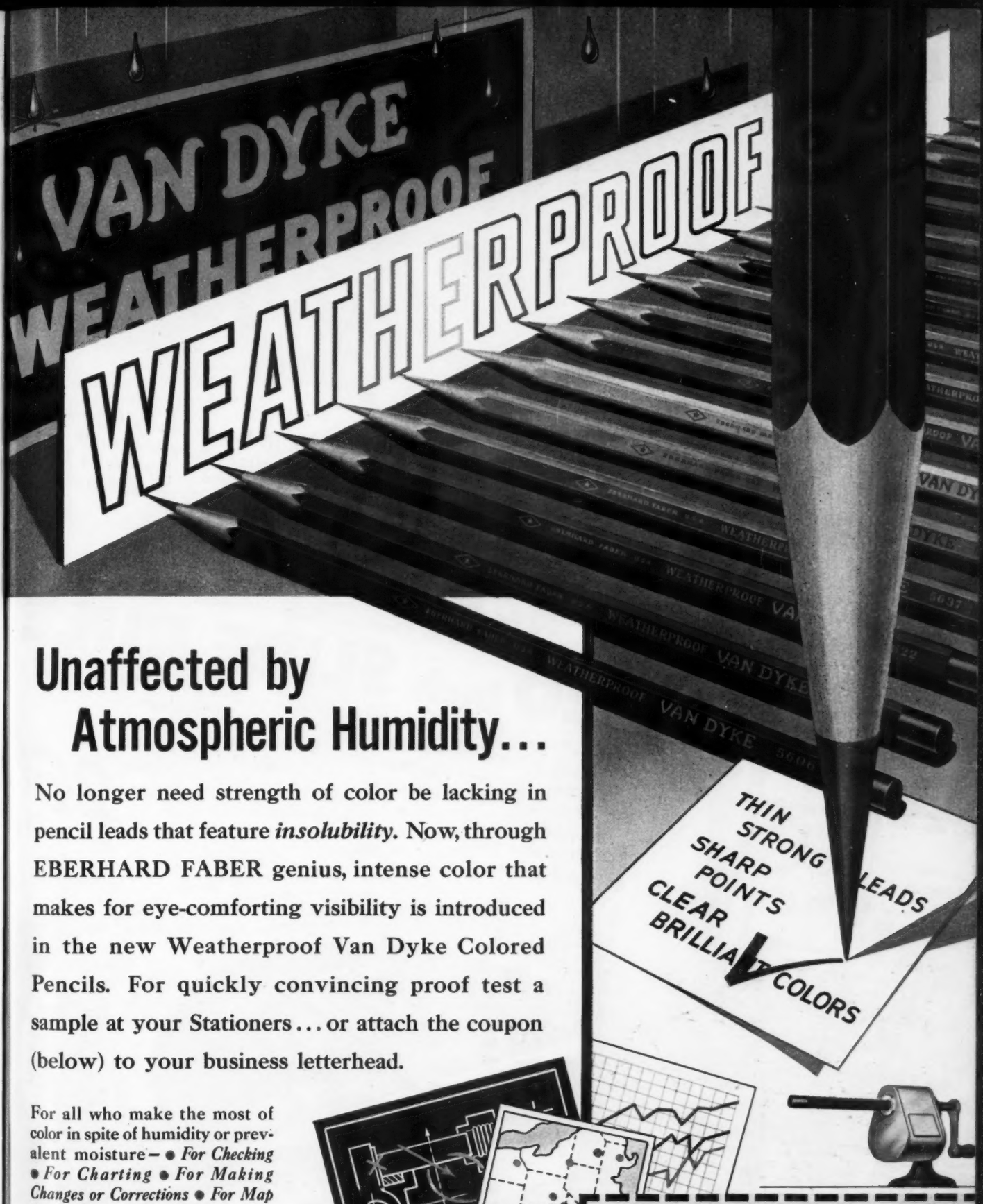

Unaffected by Atmospheric Humidity...

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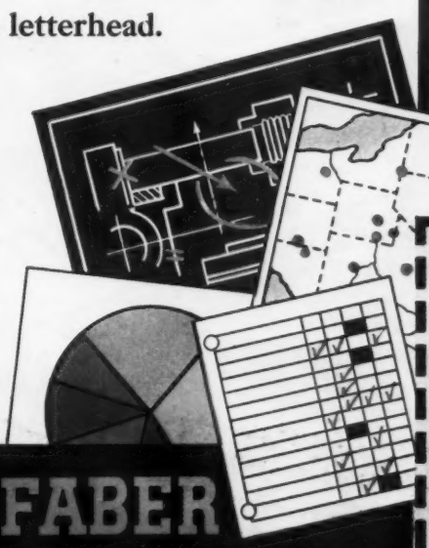

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20 inch SLIDE RULE

Made circular for compactness. Printed on durable cardboard of war-time necessity. Lacquer surfaced for cleanliness. Specially designed with ready reference scales of Cubes and Squares. Table of standard Conversion settings on back. Also Decimal Equivalents . . . Available at a price that invites everyone to *clip the coupon* and get one.

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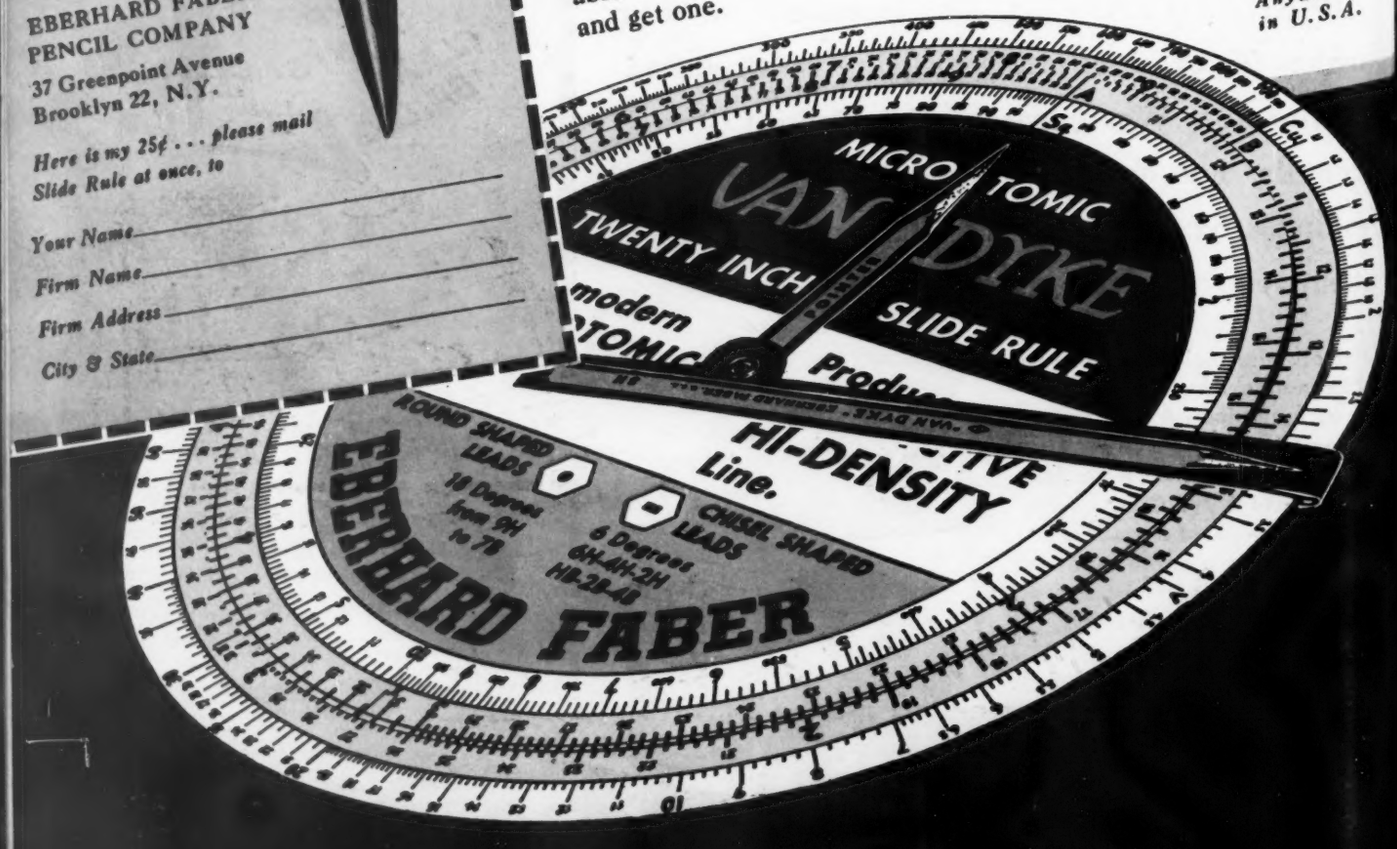

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▲ *Crane scrub-up sinks, instrument sinks and other equipment aid in assuring absolute sanitation.*

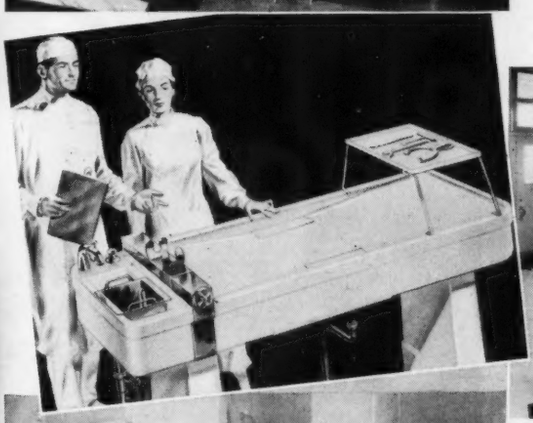
The emergency room requires scrub-up sinks, disposal sinks, and other plumbing equipment—you will find them all in the ▼ *Crane line.*

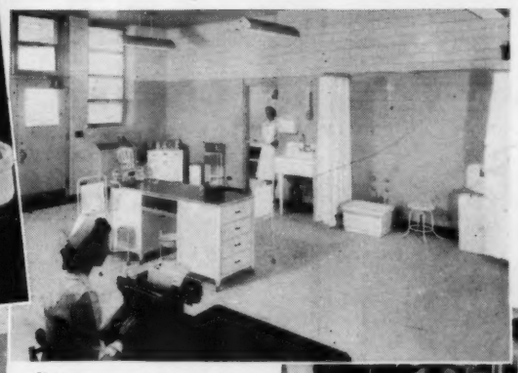
Crane disposal sinks are made in a variety of styles to meet every hospital need.

You will find the latest equipment for every branch of hydrotherapeutic treatment in the Crane line.

JUST as the plans for hospitals are highly specialized—so the plumbing equipment for hospitals is highly specialized too. In the complete Crane line you will find the equipment you want for every department in the hospital—equipment that has been designed in cooperation with surgeons and hospital administrators, to meet the unusual requirements of these institutions.

Consult your Crane hospital catalog for information on the plumbing requirements of the buildings you are designing and call the nearest Crane Branch for further information.





◀ *The industrial hospital is an important part of every manufacturing plant. Crane equipment is helping keep America's worker army on the job.*

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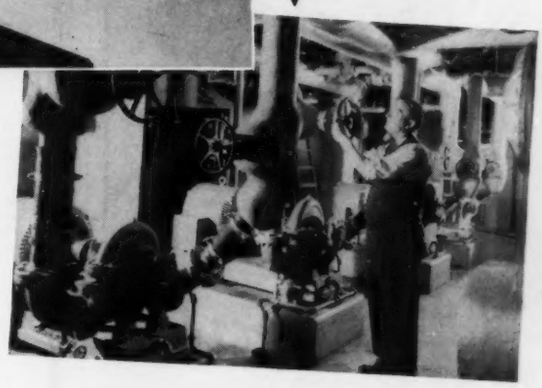
↖ *Crane Duraclay autopsy tables are designed for maximum sanitation and maximum convenience. They offer the latest improvements for modern autopsy technique.*

◀ *Whether you are planning bathrooms for private rooms or washrooms for wards, Crane fixtures meet every requirement.*



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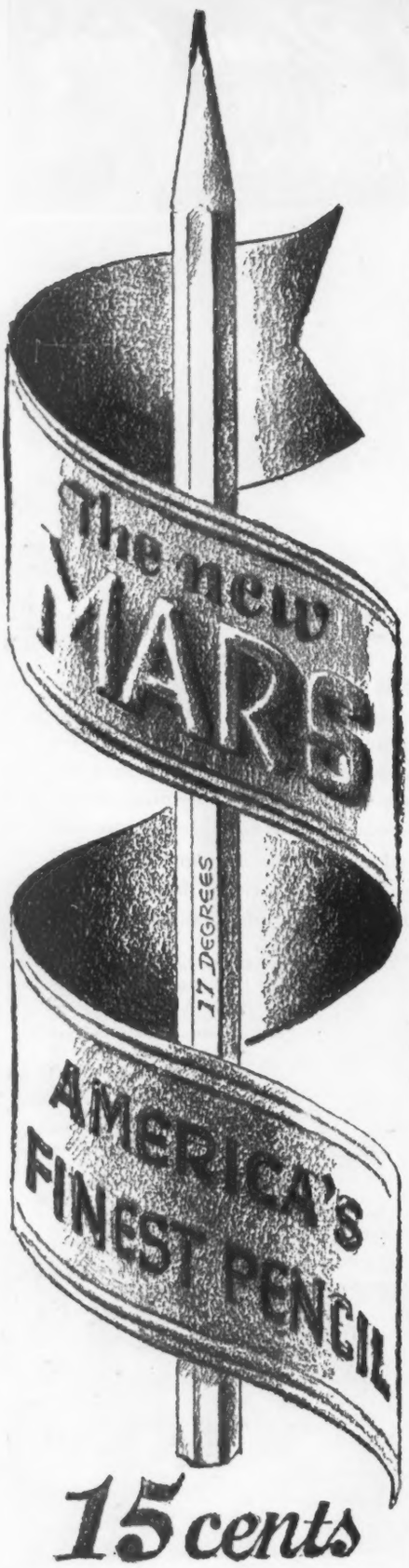

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Reviews

(Continued from page 116)

members of the Council: geographic distribution, facilities and services available, personnel, etc. Twenty-three laboratories are listed, and their facilities are available in nearly every part of the country.

Toilet Compartments

Toilet compartments for institutional, commercial, and other types of buildings are included in *Toilet Room Environments*, a 12-page booklet in which Sanymetal toilet partitions are illustrated. Three types for wartime installations, six types for postwar work, are shown. Request Catalog No. 82, Sanymetal Products Co., Inc., 1701 Urbana Rd., Cleveland, Ohio.

Trucks

All types of institutional dish trucks, mop and wringer trucks, maid's trucks, linen service trucks, piano-moving trucks, book trucks, portable marking tables, shelf trucks, garment racks, and rubber bumpers are listed, dimensioned and described in *Colson Quiet Trucks for General Purposes*, The Colson Corp., Elyria, Ohio.

Windows

Hope's Windows, Inc., Jamestown, N. Y., presents a 4-page discussion, *Condensation on Glass in Windows*, in which reasons for condensation and recommendations to offset it are given. "Hope's Quick-Set Storm Sash" contains full information on wood-framed sash for use with all makes of steel casements.

Notices

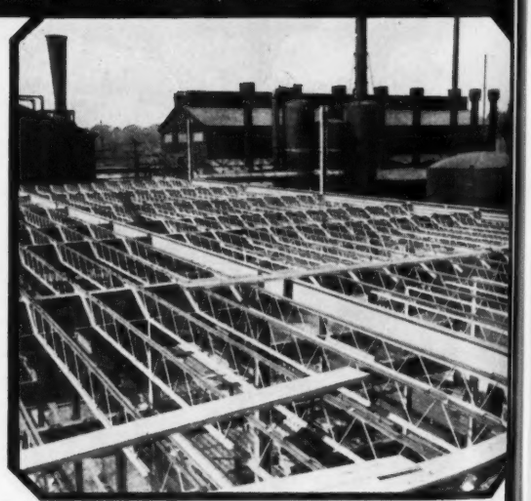
MORRIS KETCHUM JR. and FRANCIS X. GINA announce that J. Stanley Sharp is now a member of their firm, which is to be known as KETCHUM, GINA & SHARP, ARCHITECTS. Offices are at 45 Rockefeller Plaza, New York 20, N. Y.

The firm of R. H. HUNT COMPANY, ARCHITECTS, composed of B. F. Hunt and T. G. Street, has been dissolved. B. F. Hunt will continue practice under the name of B. F. HUNT ASSOCIATES, ARCHITECTS, with offices in the James Building, Chattanooga, Tennessee.

PHILIP SHIRLEY WADSWORTH, A.I.A., and ROYAL BOSTON, JR., A.I.A., announce the admission of William Dana Tuttle to partnership in their firm which will be known as WADSWORTH BOSTON & TUTTLE, ARCHITECTS. Offices are at 57 Exchange Street, Portland, Maine.

STEEL JOISTS

FOR CURRENT CONSTRUCTION and POST-WAR PROJECTS



AVAILABLE NOW for Use in Floors, Roofs, and as Roof Purlins, Steel Joist Construction is

- ECONOMICAL
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APPROVED INSULITE WALL OF PROTECTION

The walls of the homes of tomorrow will face added demands—the demands that modern air-conditioning will place upon them.

Moisture condensation within the walls will present a serious problem unless avoided when the walls themselves are built.

The Insulite Approved Wall of Protection will help solve this problem for you. With this wall, you give your clients:

- *Walls of Double Insulation.*
- *A wall of superior bracing strength.*
- *A wall protected against internal moisture condensation.*

The complete story of the Insulite Approved Wall of Protection will interest you. Write today for complete technical information. Address Insulite, Minneapolis, Minnesota.

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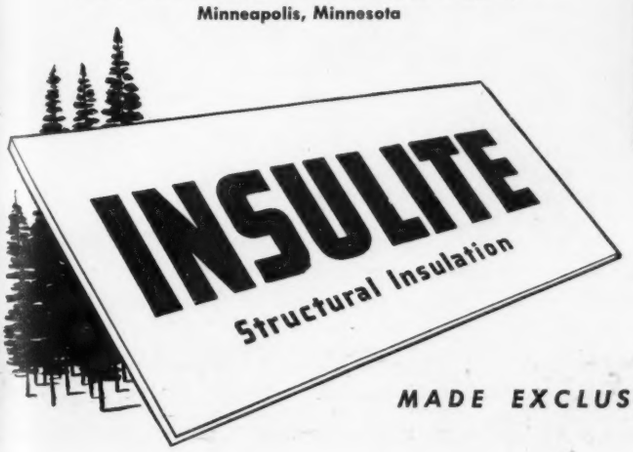

On outer walls, Insulite Bildrite Sheathing. The large boards provide a wind-proofed, water-proofed, weather-tight wall. Bildrite Sheathing has a bracing strength four times that of wood sheathing, horizontally applied.

On inner walls—Insulite sealed Lok-Joint Lath, furnishes a *second* wall of insulation. The patented "Lok-Joint" provides a strong, rigid plastering surface, prevents joints from opening under trowel pressure.

How moisture condensation is eliminated in the Insulite Approved Wall of Protection: Sealed Lok-Joint Lath, with asphalt barrier against the *studs* effectively retards vapor travel. Bildrite Sheathing, being permeable to vapor, permits what little vapor escapes to pass naturally towards the outside.

MADE EXCLUSIVELY FROM WOOD

Reviews

(Continued from page 120)

Color for Safety

Du Pont is presenting a very complete booklet, *A Safety Color Code for Industry*, which proposes a uniform system of color signals for industry based on scientific research, for indicating accident hazards, identifying protective equipment, and assuring orderly factory arrangement and good housekeeping.

Malleable Iron Valves

A 6-page brochure on a new line of air furnace malleable iron gate, globe, angle, and check valves (recommended for 150 lbs. steam pressure at 450° F., where severe service conditions are encountered) is offered by Jenkins Bros., 80 White St., N. Y. City. Besides being priced substantially under steel valves, these iron valves are designed to give greater corrosion-resistance than carbon steel and cast iron.

Unit Heaters

Three new files on unit heaters: *File No. 30-C-43* on 5-way vertical discharge propeller fan type, permitting greater heating coverage; *File No. 30-C-43* on propeller fan horizontal discharge type, relieving hazards of expansion and contraction and resultant leaks—also saving critical materials; *File No. 30-C-45* on heat diffusers for uniform heating, ventilating, and drying large areas. Copies of these files may be obtained by writing News Bureau, Carrier Corp., Syracuse 1, N .Y.

Is This a Tank of Oil You Saved?

Coast Guard Photo showing forward gun crew helping to keep the sea lanes open somewhere in the Atlantic.

YOU don't have to *wish* you could get in the fight. You're in it! We're all in it! Someone saved enough oil to furnish that shell for that Coast Guard gun. Someone saved enough oil to move that cutter another knot toward victory. Was it you?—or wasn't it?

Think of the oil used by the supply ships to carry food to the men already on foreign soil—on twenty-two battle fronts beyond three mighty oceans. Think of the oil that must be used to guard beleaguered convoys through sub-infested seas. Think of the fuel that's lost when the convoys "don't get through."

This war—your war—is fought on furnace fires, on hammers and presses and lathes that must have fuel. It is fought on fueled wheels, fueled wings, fueled tanks, fueled trucks and half-tracks, by all this—and by the indomitable grit of the men who got to the front on fuel.

Dare you, back home, waste fuel? Don't let apathy stop you! *Do something* about fuel saving!

Fuel-Saving Starts With CONTROL

An explanation of the Control exercised by Dunham Differential Steam Heating is contained in our Bulletin 614A. May we send it? Address The C. A. Dunham Co., 450 E. Ohio Street, Chicago 11, Ill. Toronto, Canada; London, England

☆

This Advertisement Dedicated By

DUNHAM

SYSTEMS OF STEAM HEATING

to a better understanding of the urgency of conservation in fuel use

DUNHAM MAKES FUELS GO FURTHER

Kitchen Cabinetry

The Kitchen Maid Corp., Andrews, Ind., announces in a brochure that it has no problem of re-conversion after the war and is now ready for residential civilian demands with new methods of composite construction incorporating new, light, durable materials.

Pressure Gauges

Ashcroft has issued a 12-page bulletin on the phenol turret case *Duragauge*. The accuracy of this pressure gauge is guaranteed to within ½ of 1 percent of the dial graduation over the entire scale, on a 270 dial arc. Bulletins may be obtained from its manufacturers, Manning, Maxwell & Moore, Inc., Bridgeport 2, Conn.

Packaged Blowers

Peerless Electric Co., Warren, Ohio, offers belt drive, direct drive, or special assembly units designed to furnish positive circulation of air through existing or new gravity furnaces. It is stated that blowers can be installed even in winter when the furnace fire is burning.

Air Devices

Air devices from Agitair Products include: round, square, or rectangular air diffusers to distribute mixed air draftlessly and proportionately; weather-and-light-proof exhausters for providing positive elimination of "down-draft"; all-steel, permanent, cleanable air filters; grease filters to lessen fire hazard; automatic oil-burning, smokeless, hot water generators; heat baffles claiming a 30% reduction on fuel oil consumption on horizontal gun-type oil burners; direct oil-fired hot gas generating furnaces. Data obtainable from Air Devices, Inc., 17 E. 42nd St., N. Y. City 17.

Swimming Pools

Swimming Pool Data & Reference Annual, 425 Fourth Ave., N. Y. City, makes a special 30-day offer to architects of their 1943 eleventh edition.

Plumbing Fixtures

The John Douglas Co., Cincinnati, Ohio, twice recipient of the coveted Army and Navy "E" for excellence in production of ordnance, munitions, aircraft parts, and plumbing equipment, announces improved fixtures for postwar planning in a new booklet.

Electrical Wiring

Electrical Living in 194X, a new 64-page illustrated book explaining the need for better wiring for better living in postwar homes, has been prepared by the Better Homes Department of Westinghouse Electric and Manufacturing Co., 306 Fourth Ave., P.O. Box 1017, Pittsburgh 30, Pa.

Heating Control System

Prefaced by a radio program introduction, a new system of heating control for homes, called Moduflow, is announced by the Minneapolis-Honeywell Regulator Co., Minneapolis 8, Minn. A special "engineering discussion" file prepared for architects, engineers, and universities, and a more generally descriptive booklet entitled *Heating and Conditioning the Postwar Homes* are available upon request.